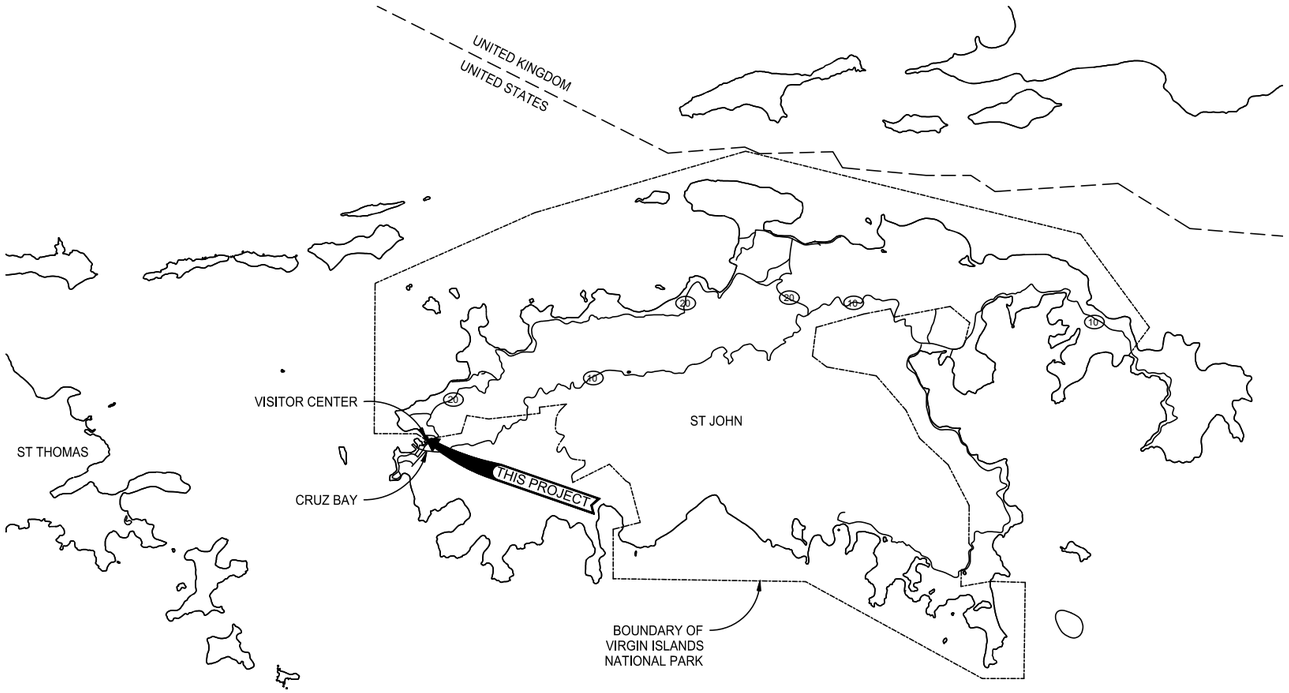
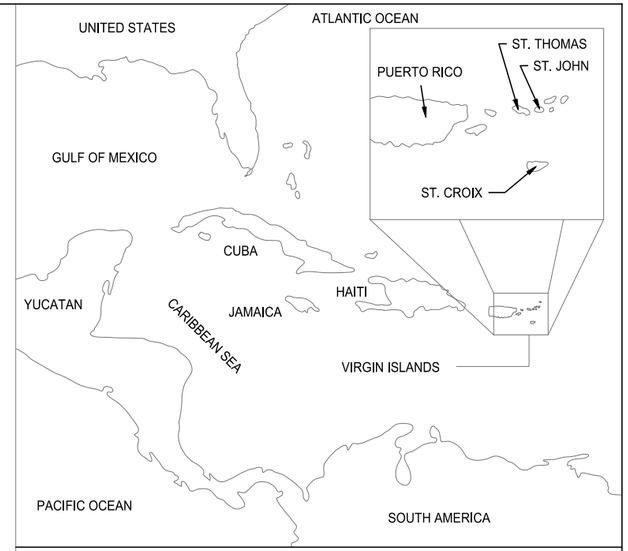
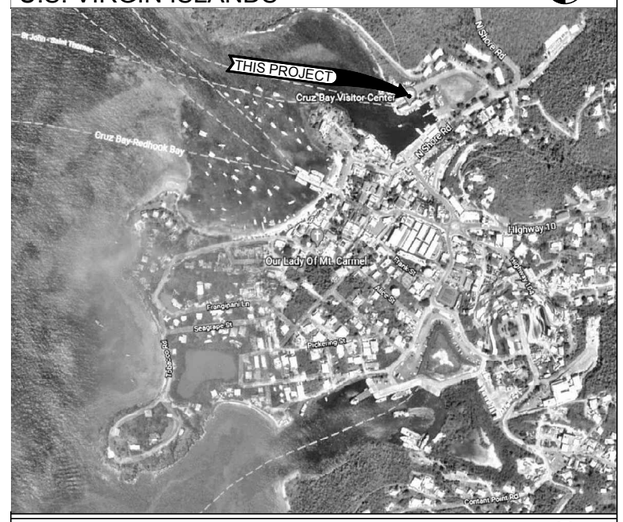




ST. JOHN
U.S. VIRGIN ISLANDS

NOT TO SCALE



ST. JOHN
CRUZ BAY

NOT TO SCALE

CRUZ BAY
VISITOR CENTER

NOT TO SCALE

REPAIR CRUZ BAY VISITOR CENTER

VIRGIN ISLANDS NATIONAL PARK, St. John, USVI

SCALE OF MILES
0 0.5 1 1.5 2

SCALE OF KILOMETERS
0.5 1 1.5 2 2.5 3

CROFT & ASSOCIATES - P15PC00467	Mark	Sheet	REVISION	Date	Initial
PRIME / ARCH / MEP: CROFT & ASSOCIATES KENNESAW, GEORGIA STRUCTURAL: MOFFATT & NICHOL MIAMI, FLORIDA					

RECOMMENDED: _____ Project Manager _____ Date

APPROVED: _____ Superintendent _____ Date

CONSTRUCTION DRAWINGS (DRAFT)

UNITED STATES
DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE
DENVER SERVICE CENTER

TITLE OF PROJECT
REPAIRS TO FACILITY IMPACTED BY HURRICANES IRMA AND MARIA

LOCATION WITHIN PARK
CRUZ BAY VISITOR CENTER

NAME OF PARK
VIRGIN ISLANDS NATIONAL PARK

REGION: SOUTHEAST
COUNTY:
STATE: VIRGIN ISLANDS

DRAWING NO. _____

PMIS/PKG NO. VIIS 244623

SHEET 1 OF 23

1/21/2021 8:11:49 AM

INDEX OF DRAWINGS		
SHEET	SUB SHEET	TITLE OF SHEET
1	G1	COVER SHEET
2	G2	SHEET INDEX AND GENERAL INFORMATION
3	G3	OVERALL EXISTING CONDITIONS PLAN
4	G4	PHOTOGRAPHS OF EXISTING CONDITIONS
5	D1	DEMOLITION PLAN
6	D2	DEMOLITION DETAILS
7	S1.1	DREDGING NOTES
8	S1.2	DREDGING SITE PLAN
9	S1.3	DREDGING SECTIONS
10	S1.4	DREDGING CONTAINMENT AREA
11	S2.1	STRUCTURAL NOTES
12	S2.2	SITE PLAN
13	S2.3	STRUCTURAL SITE PLAN (1 OF 2)
14	S2.4	STRUCTURAL SITE PLAN (2 OF 2)
15	S2.5	FIXED PIER
16	S2.6	FIXED PIER DETAILS (1 OF 3)
17	S2.7	FIXED PIER DETAILS (2 OF 3)
18	S2.8	FIXED PIER DETAILS (3 OF 3)
19	S2.9	BULKHEAD REPAIRS DETAILS (1 OF 2)
20	S2.10	BULKHEAD REPAIRS DETAILS (2 OF 2)
21	S2.11	STRUCTURAL DETAILS
22	S3	BORING LOGS (1 OF 2)
23	S4	BORING LOGS (2 OF 2)

GENERAL NOTES:

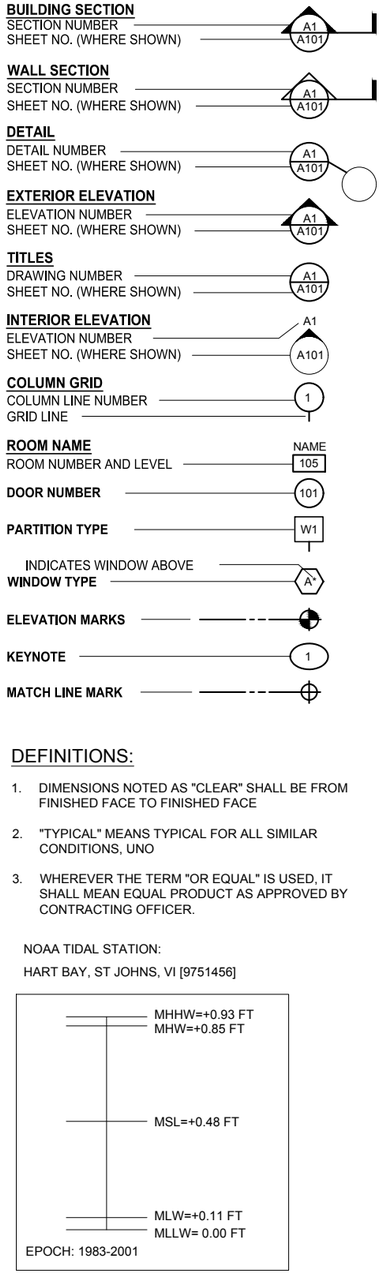
1. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE SUPERVISION AND COORDINATION OF ALL CONSTRUCTION PROCEDURES.
2. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE APPLICABLE CODES AND ORDINANCES IN EFFECT AT THE TIME OF CONSTRUCTION OUTLINED ON G2 AND S2.1. IN THE EVENT OF A CONFLICT, THE MORE STRINGENT REQUIREMENT SHALL GOVERN AND BE MET.
3. ALL DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR AND THE CONTRACTING OFFICER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.
4. WHERE A DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY TO ALL LIKE OR SIMILAR CONDITIONS, EVEN THOUGH NOT SPECIFICALLY MARKED ON THE DRAWINGS.
5. CONTRACTOR SHALL REMOVE PROMPTLY AND LEGALLY ALL ACCUMULATED DEBRIS, PROTECT ALL EXPOSED PORTIONS OF WORK FROM ELEMENTS, AND SECURELY STORE ALL ITEMS TO BE USED FOR CONSTRUCTION.
6. CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO EXCAVATION.
7. NO UNDERGROUND UTILITIES SURVEY HAS BEEN PERFORMED THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONARY MEASURES TO PROTECT THE PUBLIC AND ADJACENT PROPERTIES FROM DAMAGE THROUGHOUT CONSTRUCTION.
8. ANY EXISTING UTILITIES TO BE ABANDONED SHALL BE PROPERLY DISCONNECTED, PLUGGED OR CAPPED, AS REQUIRED BY CODE OR SOUND CONSTRUCTION PRACTICE.
9. NO CHANGES, MODIFICATIONS OR DEVIATIONS SHALL BE MADE FROM THE DRAWINGS OR SPECIFICATIONS WITHOUT FIRST SECURING WRITTEN PERMISSION FROM THE CONTRACTING OFFICER.
10. WHERE LACK OF INFORMATION, OR ANY DISCREPANCY SHOULD APPEAR IN THE DRAWINGS OR SPECIFICATIONS, REQUEST WRITTEN INTERPRETATION FROM THE CONTRACTING OFFICER BEFORE PROCEEDING WITH THAT PORTION OF THE WORK.
11. WHEN A SYSTEM OR ASSEMBLY IS SPECIFIED, ALL NECESSARY PARTS AND MATERIALS REQUIRED FOR A COMPLETE INSTALLATION/SYSTEM SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS INSTRUCTIONS.
12. COORDINATE WITH ALL TRADES THE LOCATIONS OF SLEEVES OR OTHER PRESET ACCESSORIES INVOLVING OTHER TRADES.
13. THESE PLANS SHOULD BE STUDIED AND USED IN THEIR ENTIRETY AS INFORMATION VITAL TO EACH STAGE OF CONSTRUCTION.

APPLICABLE CODES:

- INTERNATIONAL BUILDING CODE (IBC) 2018, WITH APPENDICES • INTERNATIONAL EXISTING BUILDING CODE (IEBC) 2018, WITH APPENDICES
- NFPA 101 (LIFE SAFETY CODE)
- NFPA NATIONAL FIRE CODES, INCLUDING ANNEXES (EXCEPT NFPA 5000)
- ALL APPLICABLE LOCAL CODES, STANDARDS, AND ORDINANCES
- OWNER ' S INSURANCE UNDERWRITER
- ASCE 7-16 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
- ACI 301-16 SPECIFICATIONS FOR STRUCTURAL CONCRETE
- ACI 318-14 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY
- ACI 530-13 BUILDING CODE REQUIREMENTS AND SPECIFICATION FOR MASONRY STRUCTURES
- AISC STEEL CONSTRUCTION MANUAL, 14TH EDITION
- ANSI/AWC NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION (NDS) (2015)
- ANSI/AFPA SPECIAL DESIGN PROVISIONS FOR WIND AND SEISMIC (SDPWS) (2008)
- INTERNATIONAL PLUMBING CODE (IPC) (2018)
- ARCHITECTURAL BARRIERS ACT (ABA) ACCESSIBILITY STANDARDS
- MOST CURRENT EDITION OF ALL APPLICABLE SMACNA STANDARDS (2016)
- NATIONAL ELECTRICAL SAFETY CODE (NESC) (2017)
- NFPA 70 NATIONAL ELECTRICAL CODE (NEC) (2017)
- NFPA 780 STANDARDS FOR THE INSTALLATION OF LIGHTNING PROTECTION SYSTEMS (2020)
- UNDERWRITER ' S LABORATORY (UL) (PRODUCT SAFETY)
- FLORIDA BUILDING CODE (USED ONLY AS A GUIDELINE FOR ROOF MATERIALS THAT ARE HURRICANE COMPLIANT)
- MIAMI-DADE APPROVAL (USED ONLY AS A GUIDELINE FOR ROOF MATERIALS THAT ARE HURRICANE COMPLIANT)
- NATIONAL HISTORIC PRESERVATION ACT, 1966 AS AMENDED
- SECRETARY OF INTERIOR STANDARDS FOR REHABILITATION, CODIFIED 36 CFR 67
- SECRETARY OF THE INTERIOR STANDARDS FOR THE TREATMENT OF HISTORIC PROPERTIES

14. GENERAL CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR COMPLETION OF ALL WORK SHOWN OR REASONABLY IMPLIED BY THESE DRAWINGS AND/OR SPECIFICATIONS.
15. DETAILS TAKE PRECEDENCE OVER PLANS & ELEVATIONS - LARGER SCALE DRAWINGS TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS.
16. MANUFACTURES AND MODELS REFLECTED ON DRAWINGS ARE DESIGN BASIS ONLY UNLESS SPECIFICALLY NOTED AS " SOLE SOURCE " . FOR ITEMS NOT LABELED AS " SOLE SOURCE " , EQUIVALENT PRODUCT SUBSTITUTIONS ARE PERMITTED PROVIDED THEY OFFER THE SAME OR BETTER PERFORMANCE AND ARE APPROVED BY THE CONTRACTING OFFICER THROUGH FORMAL SUBMITTAL PROCESS.
17. CONTRACTOR SHALL PROTECT ALL MATERIALS ON THE JOBSITE FROM THE ELEMENTS AND ENSURE MATERIALS DO NOT DEVELOP MOLD THROUGHOUT THE PROJECT.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED BUILDING AND CONSTRUCTION PERMITS PRIOR TO THE COMMENCEMENT OF ANY WORK.
19. ANY ITEMS NOT BEING DEMOLISHED ARE TO BE PROTECTED DURING CONSTRUCTION. IF DAMAGED OR DESTROYED, REPLACE OR REPAIR DAMAGED OR DESTROYED ITEMS WITH APPROVED ITEMS AT NO EXPENSE TO THE NATIONAL PARK SERVICE.
20. THE DESIGN OF THIS PROJECT IS BASED UPON INFORMATION PROVIDED BY NATIONAL PARK SERVICE THROUGH EXISTING DRAWINGS AND ON-SITE OBSERVATION. VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING WORK. IF EXISTING CONDITIONS ARE NOT AS DEPICTED OR ANTICIPATED, NOTIFY THE CONTRACTING OFFICER IMMEDIATELY UPON DISCOVERY AND DO NOT PROCEED WITHOUT APPROVAL. IF CONTRACTOR PROCEEDS WITHOUT APPROVAL, THE CONTRACTOR ACCEPTS FULL LIABILITY FOR THAT PORTION OF CONSTRUCTION.
21. WORK MAY REQUIRE BOTH BARGE-BASED AND UPLAND CONSTRUCTION EQUIPMENT. NO INFORMATION RELATED TO THE BULKHEAD RATED CAPACITY IS AVAILABLE. CONTRACTOR SHALL AVOID LOCATING HEAVY EQUIPMENT ADJACENT TO IT.
22. THE CONTRACTOR SHALL PLACE CONSTRUCTION DEBRIS CONTROL DEVICES, TURBIDITY CURTAINS, BOOMS, TARPAULINS, FLOATS, STAGING, AND OTHER DEVICES AS NECESSARY TO PREVENT CONSTRUCTION DEBRIS FROM ENTERING THE WATER AND AIRBORNE MATERIALS FROM LEAVING THE IMMEDIATE VICINITY OF THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP OF ANY MATERIALS DEPOSITED OUTSIDE THE WORK AREA.
23. UPLAND TOPOGRAPHIC AND BOUNDARY DATA PROVIDED BY "S&ME." SURVEY WAS PERFORMED IN SEPTEMBER 2020.
24. HYDROGRAPHIC SURVEY DATA PROVIDED BY "BIOIMPACT INC." DATED SEPTEMBER 2020. WATER DEPTHS ARE EXPRESSED IN FEET AND REFERENCED TO MLLW.
25. GEOTECHNICAL EXPLORATION COMPLETED BY GEOCONSULT MARCH 2021.
26. NO EXISTING UTILITIES INFORMATION IS AVAILABLE AT THE PROJECT SITE.
27. UPLAND GRADE ELEVATIONS ARE IN FEET AND ARE REFERENCED TO THE TO NAVD88 - GEOID 12B (EQUIVALENT TO VIVD09). NO DATUM CONVERSION IS REQUIRED BETWEEN VIVD09 AND MEAN SEA LEVEL (MLS) AS PER FEMA ADVISORY HAZARD RESOURCES MAP FOR USVI.
28. HORIZONTAL CONTROL COORDINATES ARE IN FEET AND ARE REFERENCED TO NAD83 PUERTO RICO AND VIRGIN ISLANDS.
29. TIDAL DATA ARE PER NOAA TIDAL STATION IN HART BAY, ST JOHNS, VI [9751456], ARE BASED ON THE 1983-2001 TIDAL EPOCH AND ARE NOT GUARANTEED TO REPRESENT CONDITIONS WHICH MAY OCCUR DURING CONSTRUCTION. ACTUAL WATER LEVELS MAY VARY FROM LEVELS INDICATED. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN ESTIMATES OF WATER LEVELS WHICH MAY OCCUR DURING CONSTRUCTION. VARIATION OF TIDAL LEVELS FROM THOSE INDICATED OR CONTRACTOR'S ESTIMATION OF TIDAL LEVELS SHALL NOT BE CONSIDERED AS A CLAIM FOR ADDITIONAL COMPENSATION OR DELAY OF WORK.
30. THE CONTRACTOR SHALL CONSIDER AND PLAN FOR, ON A DAILY BASIS, THE EFFECT OF TIDAL FLUCTUATIONS IN THE EXECUTION OF THE WORK.
31. THE CONTRACTOR SHALL ABIDE BY ALL APPLICABLE FEDERAL AND LOCAL ENVIRONMENTAL PROTECTION STANDARDS, LAWS, AND REGULATIONS.
32. UNANTICIPATED DEBRIS UNCOVERED DURING DEMOLITION SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF NPS CONTRACTING OFFICER. CONTRACTOR SHALL NOTIFY THE NPS CONTRACTING OFFICER OF ALL CONFLICTS WITH EXISTING UTILITIES.
33. THE CONTRACTOR SHALL REMOVE ALL BARGES, WORK BOATS, STAGING, AND OTHER TEMPORARY PLATFORMS AND/OR AREAS AT THE COMPLETION OF WORK.
34. ALL TEMPORARY FENCING SHALL BE IN ACCORDANCE WITH STANDARD INDEX NO. 452 OF THE FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS.
35. THE PROJECT SITE IS LOCATED IN AN ACTIVE WATERWAY. THE CONTRACTOR SHALL CONSIDER AND PLAN FOR THE EFFECTS OF PASSING VESSELS.
36. CONTRACTOR SHALL COORDINATE UPLAND STAGING, MARINE WORKS, GENERAL CONSTRUCTION OPERATIONS, SECURE CONSTRUCTION AREAS AND ALL COORDINATIONS/APPROVALS WITH NPS CONTRACTING OFFICER AND VIRGIN ISLANDS PORT AUTHORITY.
37. CONTRACTOR SHALL CONDUCT CONSTRUCTION OPERATIONS IN SUCH A WAY THAT ALLOWS ACCESS BY NPS TO/FROM THE BASIN. CONTRACTOR SHALL NOT INTERFERE, AFFECT OR LIMIT NPS OPERATIONS (INCLUDING ACCESS TO UPLAND PARK UTILITIES AND AMENITIES).

LEGENDS & SYMBOLS:



DEFINITIONS:

1. DIMENSIONS NOTED AS "CLEAR" SHALL BE FROM FINISHED FACE TO FINISHED FACE
2. "TYPICAL" MEANS TYPICAL FOR ALL SIMILAR CONDITIONS, UNO
3. WHEREVER THE TERM "OR EQUAL" IS USED, IT SHALL MEAN EQUAL PRODUCT AS APPROVED BY CONTRACTING OFFICER.

NOAA TIDAL STATION:

HART BAY, ST JOHNS, VI [9751456]

ABBREVIATIONS:

@	AT
AVG	AVERAGE
AUTO	AUTOMATIC
ARCH	ARCHITECT (URAL)
ANOD	ANODIZED
ALUM	ALUMINUM
ALT	ALTERNATE
A/C	AIR CONDITIONING
ADMIN	ADMINISTRATION
ABV	ABOVE
ABA	ARCHITECTURAL BARRIERS ACT
ADA	AMERICANS W/ DISABILITIES ACT
ADJ	ADJUSTABLE
AFF	ABOVE FINISH FLOOR
ACT	ACOUSTICAL TILE
BM	BEAM
BRG	BEARING
BOT	BOTTOM
BLDG	BUILDING
CAB	CABINET
CARP	CARPET
CJ	CONTROL JOINT
CLG	CEILING
CL	CENTER LINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CNTR	COUNTER
CO	CONTRACTING OFFICER
COL	COLUMN
CONST	CONSTRUCTION
CONC	CONCRETE
CONT	CONTINUOUS
COR	CONTRACTING OFFICER REPRESENTATIVE
CW	COMPOSITE WOOD
DEM	DEMOLISH, DEMOLITION
DN	DOWN
DBL	DOUBLE
DIFF	DIFFUSER
DIA	DIAMETER
DIM	DIMENSION
DTL	DETAIL
DWG	DRAWING
EA	EACH
ENCL	ENCLOSE (URE)
ELEC	ELECTRICAL
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EP	ELECTRICAL PANEL
EL, ELEV	ELEVATION
EQ	EQUAL
EQUIP	EQUIPMENT
EWC	ELECTRICAL WATER COOLER
EXT	EXTERIOR
EXIST	EXISTING
EXP J	EXPANSION JOINT
FBC	FLORIDA BUILDING CODE
FD	FIELD DETERMINE
FFE	FINISHED FLOOR ELEVATION
FFL	FINISHED FLOOR LINE
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FRP	FIBER REINFORCED PANEL
FT	FOOT/FEET
FRT	FIRE RETARDANT TREATED
FLUOR	FLUORESCENT
FTG	FOOTING
GEN	GENERAL
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GWB	GYPSUM WALL BOARD
HDWR	HARDWARE
HVAC	HEATING, VENTILATION & AIR CONDITIONING
HC	HANDICAP
HCB	HANDICAP COUPON BOOTH
HGT	HEIGHT
H	HIGH
HM	HOLLOW METAL
HORIZ	HORIZONTAL
INSUL	INSULATION
INT	INTERIOR
ID	INSIDE DIAMETER
JAN	JANITOR
LBL	LABEL
LAV	LAVATORY
L	LONG
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LVT	LUXURY VINYL TILE
MAX	MAXIMUM
NIC	NOT IN CONTRACT
MAINT	MAINTENANCE
MAT	MATERIAL
MCG	METAL CORNER GUARD
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTD	MOUNTED
MTL	METAL
MIN	MINIMUM
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OPP	OPPOSITE
OS	OVERFLOW SCUPPER
PREFAB	PREFABRICATED
PL	PLATE
PLBG	PLUMBING
PLYWD	PLYWOOD
PNL	PANEL
PT	PRESSURE TREATED
QTY	QUANTITY
REINF	REINFORCE (D) (ING)
R, RAD	RADIUS
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REQD	REQUIRED
REV	REVISION
RM	ROOM
RO	ROUGH OPENING
RTU	ROOF TOP UNIT
SHT	SHEET
SPK	SPEAKER
SIM	SIMILAR
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STRUCT	STRUCTURAL
ST	STEEL TUBE
STL	STEEL
STO	STORAGE
SUSP	SUSPENDED
TEMP	TEMPERED
TE	TOP ELEVATION
TEL	TELEPHONE
TV	TELEVISION
THK	THICK
TBD	TO BE DETERMINED
T & G	TONGUE & GROOVE
TOB	TOP OF BEAM
TOS	TOP OF STEEL
TOW	TOP OF WALL
TYP	TYPICAL
UNFIN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
USVI	U.S. VIRGIN ISLAND
VAR	VARIES
VERT	VERTICAL
VIF	VERIFY IN FIELD
VCT	VINYL COMPOSITION TILE

A/E FIRM **CROFT KENNESAW, GERGIA.** **MOFFATT & NICHOL MIAMI, FLORIDA.**	DESIGNED: MGC CADD MM TECH REVIEW: MAP DATE: 2021-04-16	SUB SHEET NO. G2	TITLE OF SHEET CRUZ BAY VISITOR CENTER SHEET INDEX AND GENERAL INFORMATION VIRGIN ISLANDS NATIONAL PARK	DRAWING NO.. . . PMIS/PKG NO. VIIS 244623 SHEET 2 OF 23

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LEGEND

-2.30	BATHYMETRIC CONTOUR
3+00	PROJECT STATIONING
5.00	GRADE ELEVATION
C1 G4	PHOTO LOCATION, SEE SHEET G4

20' 0' 20' 40'

SCALE: 1"=20'

A/E FIRM: **CROFT KENNESAW, GERGIA.** **MOFFATT & NICHOL MIAMI, FLORIDA**	DESIGNED: MGC; CADD: MM; TECH REVIEW: MAP; DATE: 2021-04-16	SUB SHEET NO.: G3	TITLE OF SHEET: CRUZ BAY VISITOR CENTER — OVERALL EXISTING CONDITIONS PLAN — VIRGIN ISLANDS NATIONAL PARK	DRAWING NO.: - - ; PMIS/PKG NO.: VIIS 244623 ; SHEET: 3 OF 23

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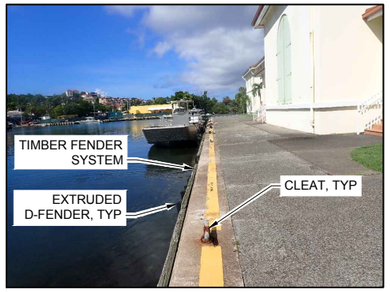
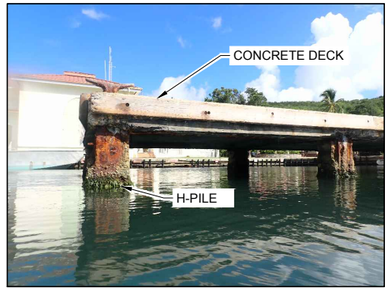


C1 G3 TYPICAL BULKHEAD
SCALE: NOT TO SCALE



C2 G3 TYPICAL PIER
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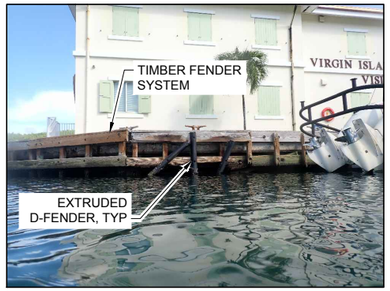
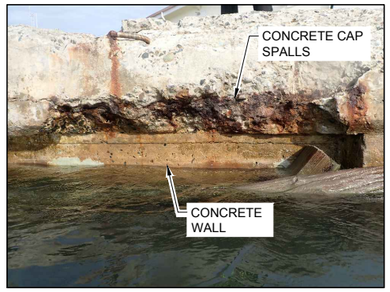
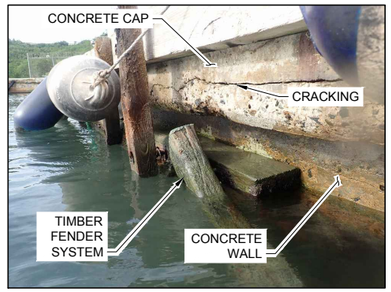


C3 G3 TYPICAL FENDER SYSTEM
SCALE: NOT TO SCALE

C4 G3 BOX CULVERT
SCALE: NOT TO SCALE



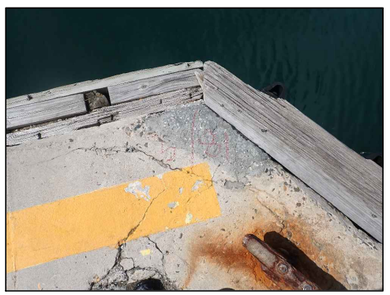
B1 G3 SPALL
SCALE: NOT TO SCALE



B2 G3 STRUCTURAL CRACKING
SCALE: NOT TO SCALE

B3 G3 JOINT GAP
SCALE: NOT TO SCALE

B4 G3 COLD JOINT GAP
SCALE: NOT TO SCALE



A1 G3 SURFACE CRACKING
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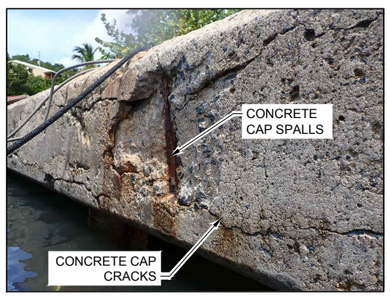

A2 G3 CRACKING AND SPALLING
SCALE: NOT TO SCALE

A3 G3 DAMAGED CLEAT
SCALE: NOT TO SCALE

A4 G3 VOID BEHIND CAP
SCALE: NOT TO SCALE

A/E FIRM **CROFT KENNESAW, GERGIA.** **MOFFATT & NICHOL MIAMI, FLORIDA.**	DESIGNED: MGC CADD MM TECH REVIEW: MAP DATE: 2021-04-16	SUB SHEET NO. G4	TITLE OF SHEET CRUZ BAY VISITOR CENTER PHOTOGRAPHS OF EXISTING CONDITIONS VIRGIN ISLANDS NATIONAL PARK	DRAWING NO.. . . PMIS/PKG NO. VIIS 244623 SHEET 4 OF 23

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DEMOLITION NOTES:

1. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO STRICTLY CONTAIN THE DEMOLITION WITHIN THE LIMITS OF THE REQUIRED CONSTRUCTION AND AVOID ANY DAMAGE TO THE EXISTING STRUCTURES. PLAN SHALL INCLUDE DETAILED MEANS AND METHODS OF DEMOLITION WORK.
2. ANY DAMAGE INCURRED IN EXECUTION OF THIS CONTRACT TO ANY PART OF THE PROPERTY/STRUCTURE NOT SPECIFICALLY DESIGNATED FOR DEMOLITION SHALL BE REPAIRED, REPLACED, AND/OR RECONSTRUCTED BY THE CONTRACTOR TO ITS ORIGINAL CONDITION AS DIRECTED BY NPS CO AT THE EXPENSE OF THE CONTRACTOR.
3. ALL DEMOLISHED MATERIAL, EXCEPT AS NOTED OTHERWISE, BECOMES THE PROPERTY OF, AND SHALL BE COMPLETELY REMOVED AND DISPOSED OF BY THE CONTRACTOR. THE REMOVAL, HANDLING, AND DISPOSAL OF ALL DEMOLITION MATERIALS SHALL BE IN STRICT ACCORDANCE WITH ALL LOCAL, AND ENVIRONMENTAL REQUIREMENTS.
4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BECOME FAMILIAR WITH THE MATERIALS TO BE DISPOSED OF AND ALL GOVERNING AGENCY REQUIREMENTS.
5. UTILITIES INFORMATION IS NOT AVAILABLE. BEFORE DEMOLITION START, CONFIRM WITH NPS THE PRESENCE OF ANY EXISTING UTILITIES IN THE VICINITY OF THE PROJECT SITE .
6. THE CONTRACTOR IS RESPONSIBLE TO CONTROL FUGITIVE DUST ORIGINATING FROM THE PROJECT SITE DURING CONSTRUCTION BY WATERING OR OTHER METHODS AS REQUIRED.
7. ACTIVITIES REQUIRED FOR REMOVAL OF ENVIRONMENTALLY CONTAMINATED MATERIALS AND DEVICES IF PRESENT, SHALL BE COORDINATED THROUGH NPS CONTRACTING OFFICER.
8. ALL SURVEY MONUMENTS WITHIN LIMITS OF CONSTRUCTION ARE TO BE PROTECTED.
9. TREATED TIMBER SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL REGULATIONS.
10. ALL CONCRETE SHALL BE ASSUMED TO BE STEEL REINFORCED.
11. THE EIGHTEEN STEEL H PILES SUPPORTING THE PIER SHALL BE EXTRACTED FULL LENGTH. EVERY ATTEMPT SHALL BE MADE TO REMOVE/EXTRACT THE ENTIRE LENGTH OF PILE. ALL EXTRACTED AND/OR CUT PILES SHALL BE DISPOSED OF IN AN APPROVED LOCATION. A PILE MAY NOT BE CUTOFF UNTIL, IN THE OPINION OF THE OWNER'S REPRESENTATIVE, THE CONTRACTOR HAS EXHAUSTED ALL REASONABLE MEANS TO EXTRACT THE PILES SHALL BE CUT AT A MINIMUM AT 1.0 FT BELOW THE TARGET DREDGE DEPTH RECORD LOCATION OF ANY CUT PILES AND PROVIDE SURVEY TO NPS CO UPON COMPLETION OF DEMOLITION. PILE EXTRACTION MUST COMPLY WITH PERMIT REQUIREMENTS.
12. DEMOLITION QUANTITIES ARE ESTIMATED BASED ON TOPOGRAPHIC SURVEY DATA PROVIDED BY "CROFT AND ASSOCIATES" AND AS OBSERVED DURING FIELD INSPECTION. UNANTICIPATED SUBMERGED DEBRIS AND UTILITIES MAY BE PRESENT AT THE PROJECT SITE AND MUST BE REMOVED BY THE CONTRACTOR. DEMOLITION QUANTITIES ON SITE TO BE CONFIRMED BY THE CONTRACTOR.
13. DEMOLITION OF HARDWARE, CONCRETE ANCHORS, REINFORCED CONCRETE REQUIRED FOR REPAIR, AND OTHER MISCELLANEOUS COMPONENTS RELATED TO THE WORK SHOWN ON THESE PLANS IS CONSIDERED INCIDENTAL TO THE WORK.

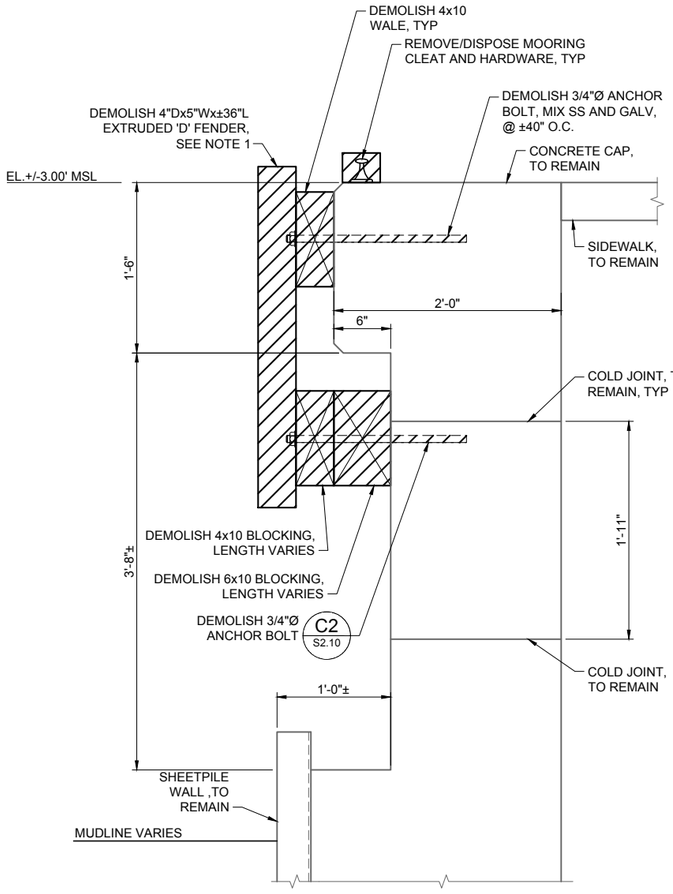
ESTIMATED DEMOLITION QUANTITIES	
ITEM	QUANTITY
FENDER SYSTEM	410 LF
FIXED PIER	816 SF
H-PILES	18
BULKHEAD CLEATS	30

LEGEND	
-2.30	BATHYMETRIC CONTOUR
	DEMO AREA
5.00	GRADE ELEVATION

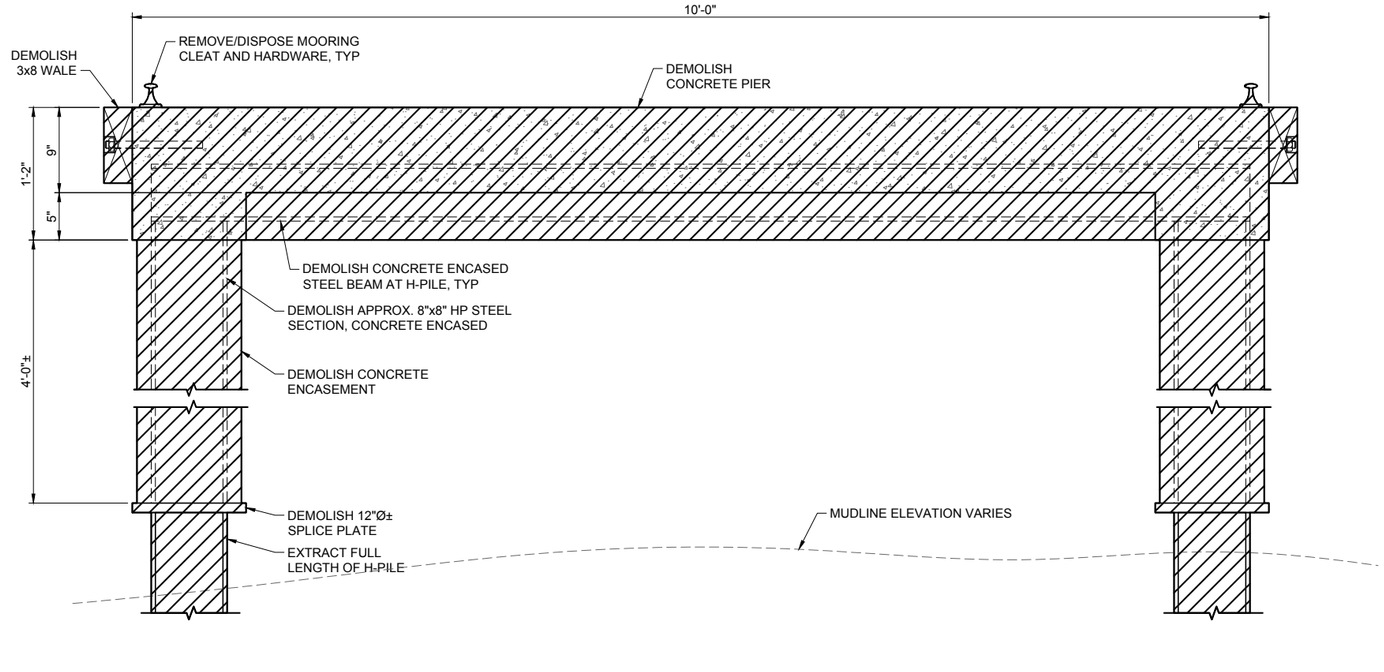
20' 0' 20' 40'

SCALE: 1"=20'

A/E FIRM **CROFT KENNESAW, GERGIA.** **MOFFATT & NICHOL MIAMI, FLORIDA**	DESIGNED: MGC CADD MM TECH REVIEW: MAP DATE: 2021-04-16	SUB SHEET NO. D1	TITLE OF SHEET CRUZ BAY VISITOR CENTER DEMOLITION PLAN VIRGIN ISLANDS NATIONAL PARK	DRAWING NO.. . . PMIS/PKG NO. VIIS 244623 SHEET 5 OF 23



A1 / D1 DETAIL - FENDER DEMOLITION
SCALE: 1 1/2" = 1'-0"



A2 / D1 DETAIL - PIER DEMOLITION
SCALE: 1 1/2" = 1'-0"

DEMOLITION NOTES:

1. EXISTING EXTRUDED D-FENDER ARE SCATTERED THROUGHOUT. CONTRACTOR SHALL FIELD VERIFIED QUANTITIES.
2. COMPONENT SIZES AND ALL DIMENSIONS SHOWN THIS SHEET ARE APPROXIMATE.
3. FENDER SYSTEM CONFIGURATION VARIES THROUGHOUT LENGTH OF BULKHEAD. DETAIL C3 ON SHEET G4 SHOWN TYPICAL CONFIGURATIONS.
4. STEEL H-PILES EXHIBIT SEVERE CORROSION AND SECTION LOSS WHERE THE CONCRETE ENCASEMENT HAS FAILED IN THE TIDAL/SLASH ZONE. CONTRACTOR METHOD OF PILE EXTRACTION MUST ACCOUNT FOR PILE INTEGRITY.

LEGEND	
	DEMO AREA

1' 0'-0" 6" 1'
SCALE: 1 1/2"=1'-0"

A/E FIRM **CROFT KENNESAW, GERGIA.** **MOFFATT & NICHOL MIAMI, FLORIDA**	DESIGNED: MGC CADD MM TECH REVIEW: MAP DATE: 2021-04-16	SUB SHEET NO. D2	TITLE OF SHEET CRUZ BAY VISITOR CENTER DEMOLITION DETAILS VIRGIN ISLANDS NATIONAL PARK	DRAWING NO.. . . PMIS/PKG NO. VIIS 244623 SHEET 6 OF 23

ENVIRONMENTAL MEASURES

1. DURING WATERSIDE CONSTRUCTION, THE CONTRACTOR SHALL MONITOR THE TURBIDITY LEVELS TO ENSURE THAT TERRITORIAL WATER QUALITY STANDARDS ARE MAINTAINED AND CONSTRUCTION METHODS ARE IN ACCORDANCE WITH THE PERMITS.
2. DURING CONSTRUCTION THE CONTRACTOR SHALL PLACE EROSION CONTROL DEVICES AND MEASURES AROUND THE PROJECT AREA AND OTHER AREA(S) NEEDED TO PREVENT EROSION AND THE MIGRATION OF SEDIMENT TO POINTS OUTSIDE THE DEMOLITION/CONSTRUCTION AREA(S).
3. CONTRACTOR SHALL DEPLOY TURBIDITY CURTAINS AS SHOWN WITHIN THE PROJECT TURBIDITY CONTROL LIMITS. TURBIDITY CURTAINS SHALL BE DEPLOYED IN A MANNER NOT TO ENTANGLE OR HARM MARINE RESOURCES.
4. TURBIDITY CURTAINS SHALL NOT BE RELOCATED/REMOVED FROM AREA UNTIL TURBIDITY LEVELS WITHIN THE ENCLOSED AREA RETURN TO 0 NTU's ABOVE BACKGROUND LEVELS IN ACCORDANCE WITH THE APPROVED TURBIDITY MONITORING CRITERIA.
5. TURBIDITY CURTAINS SHALL BE SECURED WITH TEMPORARY STEEL OR TIMBER PILINGS AT SUFFICIENT SPACING TO MAINTAIN CONTROL/FUNCTION. A WEIGHT SYSTEM CAN ALSO BE UTILIZED IF PRACTICAL.

DEBRIS REMOVAL

1. UNANTICIPATED SUBMERGED DEBRIS MAY BE PRESENT AT THE PROJECT SITE AND MUST BE REMOVED BY THE CONTRACTOR, DEMOLITION QUANTITIES ON SITE TO BE CONFIRMED BY THE CONTRACTOR. CONTRACTOR SHALL INVESTIGATE THE PRESENCE OF DEBRIS WITHIN THE PROJECT ARE PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL INVESTIGATE DEBRIS SIGNATURES WITHIN THE PROJECT AREA PRIOR TO CONSTRUCTION.
3. ALL DEBRIS SHALL BE RECOVERED AND DISPOSED OF AT AN APPROVED UPLAND DISPOSAL SITE.
4. SUBMIT DEBRIS REMOVAL REPORT WITH LOAD TICKETS AND REPRESENTATIVE PHOTOGRAPHS OF DEBRIS REMOVED. PROVIDE COORDINATES OF MAJOR DEBRIS ITEMS RECOVERED AND REMOVED.

GENERAL EROSION AND TURBIDITY CONTROL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO FURNISH, INSTALL, AND MAINTAIN TURBIDITY AND EROSION CONTROL MEASURES.
2. THE CONTRACTOR SHALL BE RESPONSIBLE TO FURNISH, INSTALL, AND MAINTAIN TURBIDITY BARRIERS IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH AROUND THE WORK AREA DURING ALL DREDGING. THE CONTRACTOR HAS THE OPTION TO ENCLOSE THE ENTIRE WATERSIDE OF THE SITE, WITHIN THE LIMITS OF DISTURBANCE, OR TO INSTALL AND MOVE THE TURBIDITY BARRIERS IN STAGES. TURBIDITY MANAGEMENT PLAN TO BE SUBMITTED TO ENGINEER OF RECORD FOR APPROVAL PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. THE APPROPRIATE TURBIDITY AND EROSION CONTROL METHODOLOGIES SELECTED BY THE CONTRACTOR FOR THIS PROJECT SHOULD BE MADE FOLLOWING ASSESSMENT OF THE PLANS AND PROJECT SITE SPECIFIC FACTORS AND AFTER CONSULTATIONS AS NEEDED WITH THE CONTRACTING OFFICER AND APPROPRIATE AGENCIES. THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING ANY AND ALL NECESSARY PERMITS FOR SUCH ACTIVITY; SEVERAL FACTORS TO CONSIDER ARE LISTED BELOW:
   - A. CLAY CONTENT IN EXCAVATED MATERIALS AND/OR PERMEABILITY'S RATES
   - B. DEPTH OF CUT
   - C. AMBIENT GROUND WATER LEVELS
   - D. ACTUAL RAINFALL AMOUNTS AND TIME OF YEAR RELATIVE TO NORMAL RAINY SEASON
   - E. PROXIMITY TO WETLANDS, WATER BODIES, OR OFFSITE PROPERTIES
   - F. CLASS DESIGNATION OF RECEIVING WATER BODY.
   - G. DENSITY, TYPE, AND PROXIMITY OF UPLAND VEGETATION TO BE RETAINED DURING CONSTRUCTION (FOR USE AS POSSIBLE FILTRATION AREAS)
   - H. EXISTING TOPOGRAPHY AND DIRECTIONS OF SURFACE FLOW
   - I. TYPE OF EQUIPMENT USED
   - J. PROJECT TYPE
   - K. DURATION OF CONSTRUCTION ACTIVITIES
   - L. AMBIENT QUALITY OF SURFACE AND GROUNDWATER
   - M. TEMPORARY CONTAINMENT AREAS LOCATION AND DIMENSIONS
4. AT THE ONSET OF CONSTRUCTION, THE CONTRACTOR, AS THE PARTY RESPONSIBLE FOR IMPLEMENTATION OF THE EROSION AND SEDIMENT CONTROL PLAN, SHALL ASSESS THE ABOVE CONDITIONS AND FACTORS AND SELECT THE APPROPRIATE METHODS OF PROTECTION. CONSTRUCTION SEQUENCING SHOULD BE PLANNED PRIOR TO INITIATION TO PROVIDE ADEQUATE PROTECTION OF WATER QUALITY.
6. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES TO BE DESIGNED, MANUFACTURED, AND INSTALLED IN ACCORDANCE WITH 2006 FDOT DESIGN STANDARDS - INDEX NO. 102.
7. TURBIDITY BARRIERS TO BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH 2006 FDOT DESIGN STANDARDS - INDEX NO. 103.
8. ADDITIONAL EROSION AND TURBIDITY CONTROL MEASURES THAN THOSE PRESENTED MAY BE REQUIRED DUE TO CONSTRUCTION SEQUENCING AND UNFORESEEN WEATHER CONDITIONS. THESE ADDITIONAL EROSION AND TURBIDITY CONTROL MEASURES, INCLUDING EXTRAS FOR MATERIALS AND LABOR, MUST BE PROVIDED BY THE CONTRACTOR.
9. IF APPLICABLE, HAY BALES OR SILT SCREENS SHALL BE INSTALLED PRIOR TO LAND CLEARING ACTIVITIES AND MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL ALL SOIL IS STABILIZED.
10. FLOATING TURBIDITY BARRIERS SHALL BE INSTALLED IN FLOWING SYSTEMS OR ALONG OPEN-WATER SHORELINES PRIOR TO INITIATION OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL ALL SOIL IS STABILIZED.
11. THE INSTALLATION OF TEMPORARY EROSION CONTROL BARRIERS SHALL BE COORDINATED WITH THE CONSTRUCTION OF PERMANENT EROSION CONTROL FEATURES TO THE EXTENT NECESSARY TO ASSURE EFFECTIVE AND CONTINUOUS CONTROL OF EROSION AND WATER QUALITY THROUGHOUT THE LIFE OF THE CONSTRUCTION PHASE.
12. THE TYPE OF EROSION CONTROL BARRIERS USED SHALL BE GOVERNED BY THE NATURE OF THE CONSTRUCTION OPERATION AND SOIL TYPE THAT WILL BE EXPOSED. SILTY AND CLAYEY MATERIAL MAY REQUIRE SOLID SEDIMENT BARRIERS TO PREVENT TURBID WATER DISCHARGE, WHILE SANDY MATERIAL MAY NEED ONLY SILT SCREENS OR HAY BALES TO PREVENT EROSION. DIVERSION DITCHES OR SWALES MAY BE REQUIRED TO PREVENT TURBID STORMWATER RUNOFF FROM BEING DISCHARGED TO WETLANDS OR SURFACE WATERS. IT MAY BE NECESSARY TO EMPLOY A COMBINATION OF BARRIERS, DITCHES, AND OTHER EROSION/TURBIDITY CONTROL MEASURES IF CONDITIONS WARRANT.

WATER QUALITY MONITORING PLAN

1. WATER QUALITY MONITORING WILL BE CONDUCTED FOR TURBIDITY DURING DREDGING ACTIVITIES AT THREE TEST STATIONS: 1) BACKGROUND, 2) COMPLIANCE, AND 3) MIXING ZONE. THE BACKGROUND STATION SHALL BE LOCATED OFFSHORE OF THE PROJECT AREA OUTSIDE OF THE MIXING ZONE AND (SINGLE OR DOUBLE) ANY TURBIDITY GENERATED BY DREDGING ACTIVITIES. THE COMPLIANCE STATION SHALL BE LOCATED OUTSIDE THE MIXING ZONE AND TURBIDITY BARRIERS OFFSHORE OF THE PROJECT AND IN THE DENSEST PORTION OF ANY VISIBLE TURBIDITY PLUME. THE MIXING ZONE STATION SHALL BE LOCATED INSIDE THE LIMITS OF THE MIXING ZONE AND THE TURBIDITY BARRIERS.
2. SHOULD THE COMPLIANCE TURBIDITY EXCEED THE BACKGROUND, WORK SHALL CEASE AND THE OWNER WILL BE NOTIFIED IMMEDIATELY. OPERATIONS SHALL NOT RESUME UNTIL CORRECTIVE MEASURES HAVE BEEN TAKEN AND TURBIDITY HAS RETURNED TO ACCEPTABLE LEVELS. NTU's ABOVE 3 WILL BE ALLOWED WITHIN THE MIXING ZONE.
3. TESTING WITHIN THE LIMITS OF THE MIXING ZONE WILL BE CONDUCTED TO VERIFY COMPLIANCE WITH THE GREATER OF BACKGROUND AND TERRITORIAL WATER QUALITY STANDARDS PRIOR TO REMOVAL OF THE TURBIDITY BARRIERS (REVIEW USACE AND CZM PERMITTING FOR ADDITIONAL INFORMATION). ONCE DREDGING OPERATIONS ARE COMPLETE AND COMPLIANCE AT THE MIXING ZONE STATION IS MET, TESTING AT THE MIXING ZONE STATION MAY BE SUSPENDED.
4. WATER QUALITY TESTING SHALL OCCUR TWICE DAILY DURING DREDGING, AT LEAST FOUR HOURS APART FOR TURBIDITY. SAMPLES SHALL BE COLLECTED AT TWO FEET ABOVE THE MUDLINE AND TWO FEET BELOW THE WATER SURFACE AT EACH STATION AND SHALL BE ANALYZED WITHIN 30 MINUTES OF COLLECTION. THE ANALYZED DATA SHALL BE DOCUMENTED AND REPORTED TO THE APPROPRIATE REGULATORY AGENCIES WITHIN SEVEN DAYS AFTER COMPLETION OF EACH TEST. MONITORING REPORTS SHALL CONTAIN THE FOLLOWING INFORMATION:
   - A. PERMIT NUMBER
   - B. DATES OF SAMPLING AND ANALYSIS
   - C. STATEMENT DESCRIBING METHODS USED IN COLLECTION, HANDLING, STORAGE, AND ANALYSIS OF THE SAMPLES
   - D. MAP INDICATING SAMPLE LOCATIONS
   - E. STATEMENT BY INDIVIDUAL RESPONSIBLE FOR THE IMPLEMENTATION OF THE SAMPLING PROGRAM CONCERNING THE AUTHENTICITY, PRECISION, LIMITS OF DETECTION AND ACCURACY OF DATA
   - F. CONSTRUCTION ACTIVITIES
5. MONITORING REPORTS SHALL ALSO INCLUDE THE FOLLOWING INFORMATION FOR EACH SAMPLE:
   - A. TIME OF DAY
   - B. DEPTH OF WATER BODY
   - C. DEPTH OF SAMPLE
   - D. ANTECEDENT WEATHER CONDITIONS
   - E. TIDAL STAGE AND DIRECTION OF FLOW
   - F. WIND DIRECTION AND VELOCITY

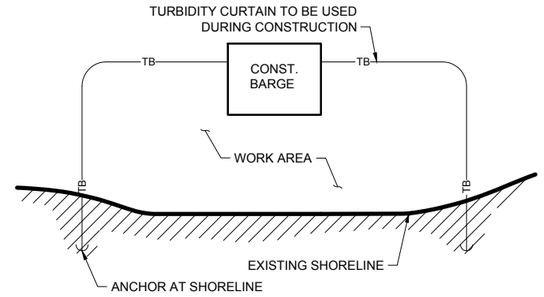
DREDGE MATERIAL TESTING

1. CONTRACTOR TO CONFIRM WITH THE PROPOSED DISPOSAL SITE (BOVONI LANDFIELD) REGARDING ANY TESTING THAT MAY BE REQUIRED FOR THE DISPOSAL OF THE DREDGED MATERIAL.
2. NON-HAZARDOUS DREDGE MATERIAL MAY BE BENEFICIALLY REUSED AS FILL MATERIAL ON SITE, IF NEEDED.

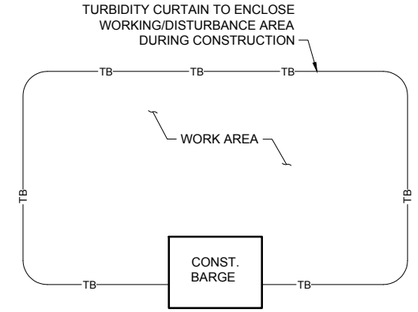
TABLE OF QUANTITIES	
DREDGE AREA	15,785 SQ FT
DREDGE VOLUME	2,000 CY

TURBIDITY BARRIERS AND TESTING

1. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN TURBIDITY CONTROL CURTAIN AROUND WORK AREA. THE PURPOSE OF THE CURTAIN IS TO AVOID ANY DEBRIS FROM GOING INTO THE MAIN WATERS. THE CONTRACTOR HAS THE OPTION TO ENCLOSE THE ENTIRE WATERSIDE OF THE SITE, WITHIN THE LIMITS OF DISTURBANCE, OR TO INSTALL AND MOVE THE CURTAIN IN STAGES. THE CONTRACTOR SHALL MAINTAIN SUCH CURTAINS AT ALL TIMES IN THE AREAS WHERE WORK IS IN PROGRESS.



ALONG SHORE
PLAN



OFF SHORE
PLAN

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 2'-0" AT TOP & MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES & FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
   - A. POSTS: STEEL EITHER "I" OR "U" TYPE
   - B. FENCE: WOVEN WIRE, 14 GA. 6" MAX. MESH OPENING
   - C. FILTER CLOTH: SHALL MEET NCDOT, STANDARD SPECIFICATION, SECTION 893

A/E FIRM **CROFT KENNESAW, GERGIA.** **MOFFATT & NICHOL MIAMI, FLORIDA.**	DESIGNED: MGC CADD MM TECH REVIEW: MAP DATE: 2021-04-16	SUB SHEET NO. S1.1	TITLE OF SHEET CRUZ BAY VISITOR CENTER DREDGING NOTES VIRGIN ISLANDS NATIONAL PARK	DRAWING NO.. - PMIS/PKG NO. VIIS 244623 SHEET 7 OF 23

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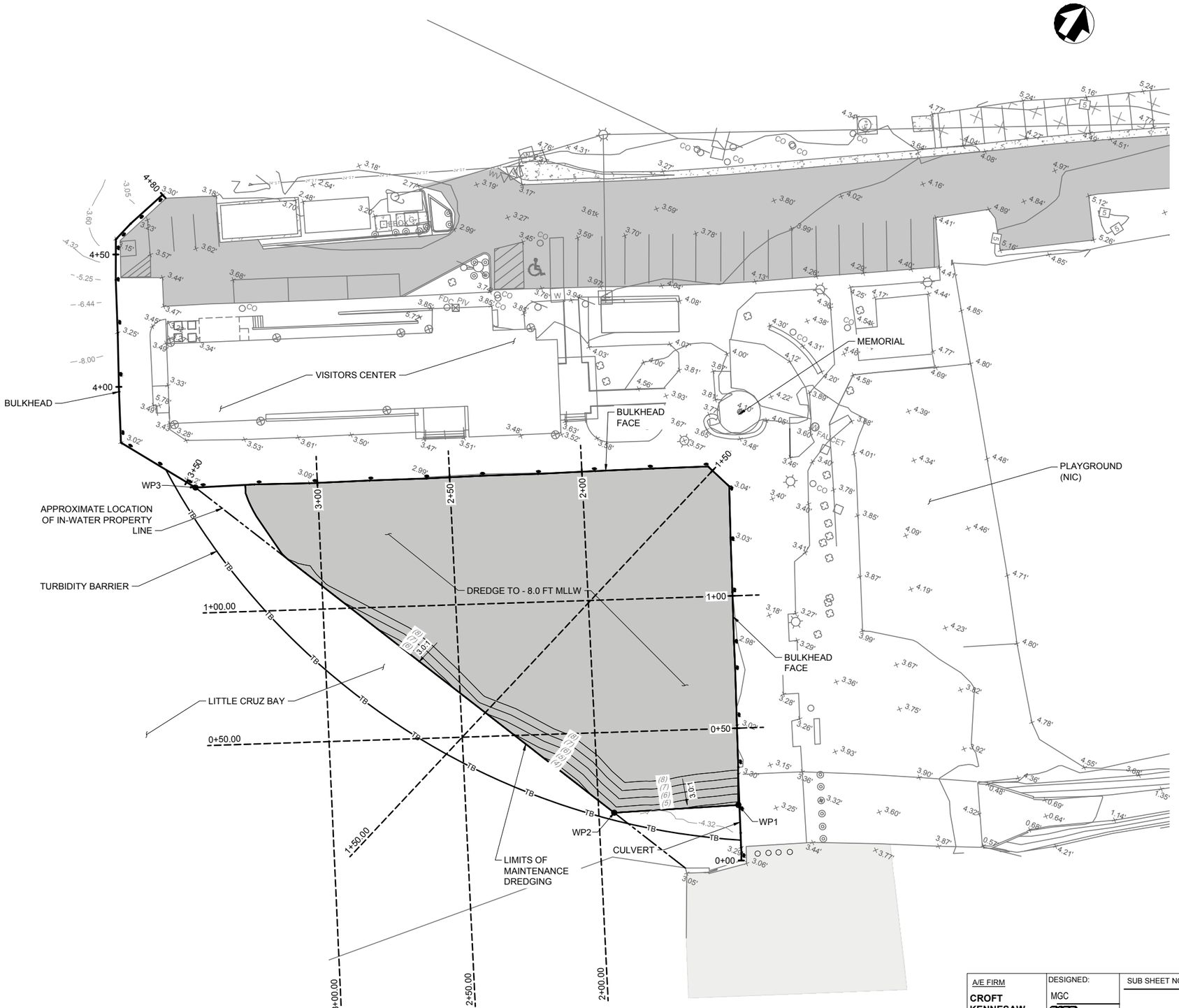


LEGEND:

- APPROXIMATE LIMITS OF IN-WATER PROPERTY LINE
- EXISTING BATHYMETRIC CONTOUR
- DREDGING AREA
- PARKING AREA
- TB — TURBIDITY BARRIER

NOTE:

1. HYDROGRAPHIC SURVEY DATA PROVIDED BY "BIOIMPACT INC." DATED SEPTEMBER 2020. WATER DEPTHS ARE EXPRESSED IN FEET AND REFERENCED TO MLLW.
2. NO EXISTING UTILITIES INFORMATION IS AVAILABLE AT THE PROJECT SITE.
3. MAINTENANCE DREDGE TARGET DEPTH (-8.0 FT MLLW) AND DREDGE EXTENT PROVIDED BY NPS BASED ON PREVIOUS MAINTENANCE DREDGING PERFORMED IN LITTLE CRUZ BAY.
4. LOCATION OF IN-WATER PROPERTY LINE IS APPROXIMATE. CONTRACTOR TO CONFIRM BY LICENSED SURVEYOR.
5. HORIZONTAL CONTROL COORDINATES ARE IN FEET AND ARE REFERENCED TO NAD83 PUERTO RICO AND VIRGIN ISLANDS.
6. DREDGE VOLUME DOES NOT INCLUDE OVERDREDGE.

TABLE OF QUANTITIES	
DREDGE AREA	15,785 SQ FT
DREDGE VOLUME	2,000 CY

WORKING POINT TABLE		
WP #	NORTHING	EASTING
1	839968.02	1224938.23
2	839947.49	1224895.96
3	840000.86	1224702.99

20' 0' 20' 40'

SCALE: 1"=20'

A/E FIRM
CROFT KENNESAW, GERGIA.

MOFFATT & NICHOL MIAMI, FLORIDA

DESIGNED: MGC
CADD: MM
TECH REVIEW: MAP
DATE: 2021-04-16

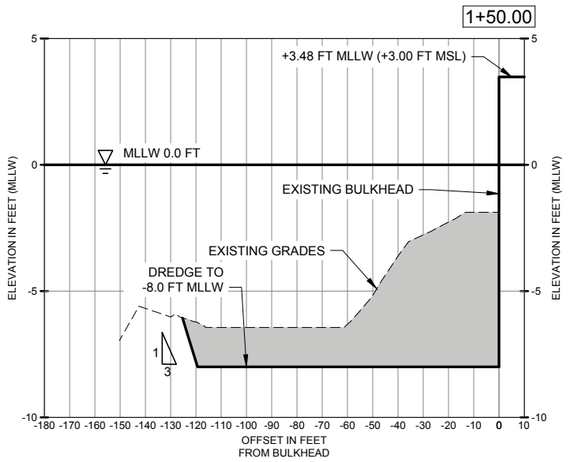
SUB SHEET NO.: S1.2

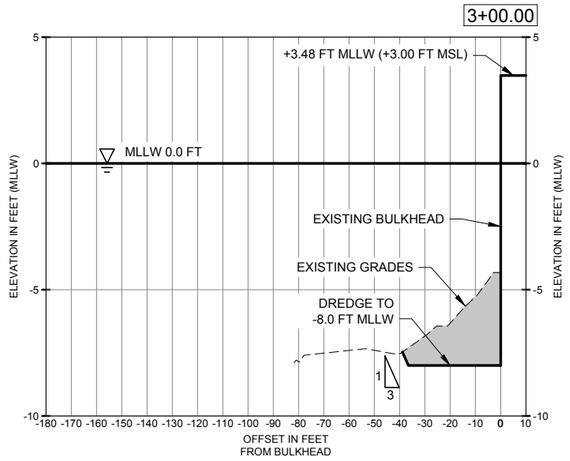
TITLE OF SHEET
CRUZ BAY VISITOR CENTER

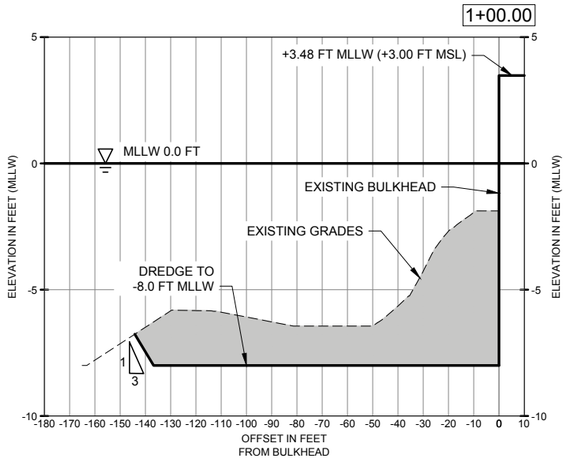
DREDGING SITE PLAN

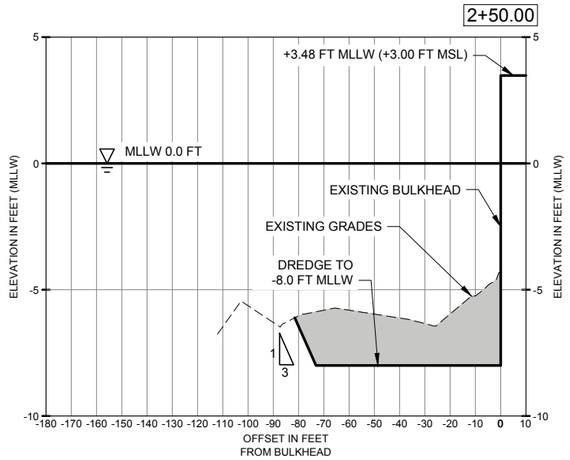
VIRGIN ISLANDS NATIONAL PARK

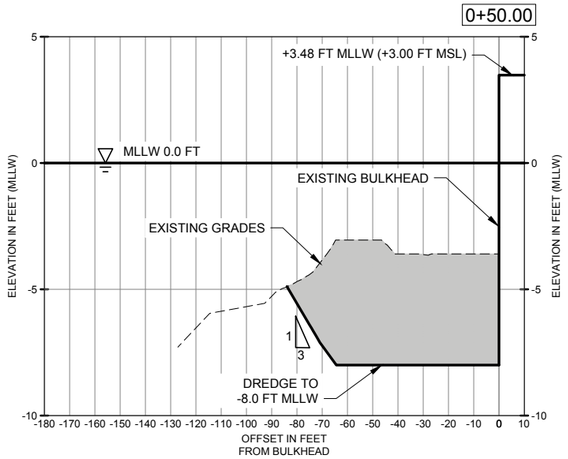
DRAWING NO.: . .
PMIS/PKG NO.: VIIS 244623
SHEET: 8 OF 23

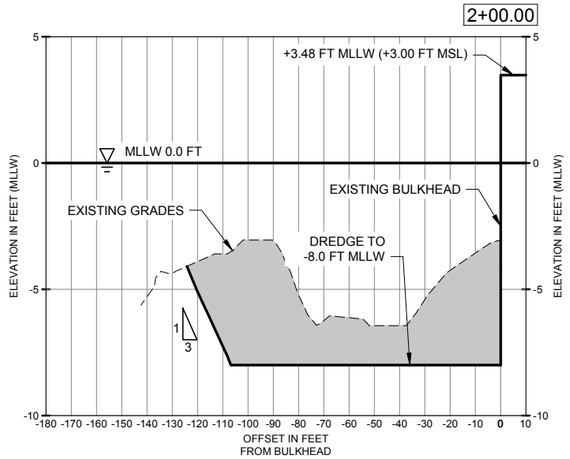








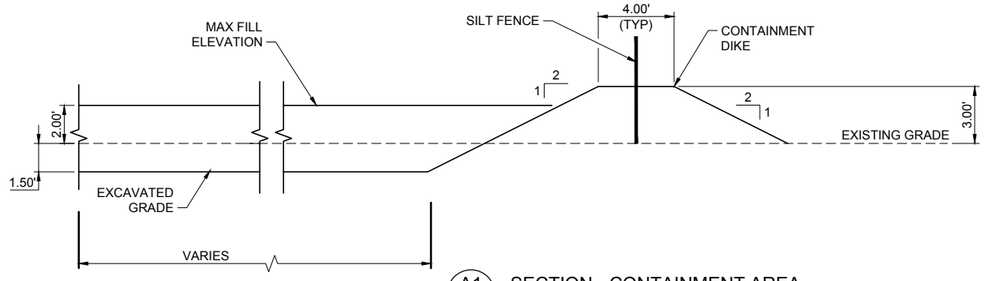




SCALE: 1"=30'

A/E FIRM **CROFT KENNESAW, GERGIA.** **MOFFATT & NICHOL MIAMI, FLORIDA.**	DESIGNED: MGC CADD: MM TECH REVIEW: MAP DATE: 2021-04-16	SUB SHEET NO. S1.3	TITLE OF SHEET CRUZ BAY VISITOR CENTER DREDGING SECTIONS VIRGIN ISLANDS NATIONAL PARK	DRAWING NO.. . . PMIS/PKG NO. VIIS 244623 SHEET 9 OF 23

B1 S1.4 CONTAINMENT AREA
SCALE: NOT TO SCALE



A1 S1.4 SECTION - CONTAINMENT AREA
SCALE: 1/4" = 1'-0"

NOTES

1. CONTAINMENT AREA TO ENABLE DRYING OF SANDY MATERIAL. ONCE DRY, DREDGED MATERIAL WILL BE TAKEN TO THE PROPER FACILITY FOR DISPOSAL (BOVONI LANDFIELD).
2. LOCATION AND FINAL DIMENSIONS OF CONTAINMENT AREA IS APPROXIMATE. CONTRACTOR TO CONFIRM LOCATION AND FINAL DIMENSIONS ON-SITE BASED ON UPLAND AVAILABILITY AND DREDGING RATES.

4' 0'-0" 4' 8'
SCALE: 1/4"=1'-0"

A/E FIRM **CROFT KENNESAW, GERGIA.** **MOFFATT & NICHOL MIAMI, FLORIDA**	DESIGNED: MGC DRAWN: MM TECH REVIEW: MAP DATE: 2021-04-16	SUB SHEET NO. S1.4	TITLE OF SHEET CRUZ BAY VISITOR CENTER DREDGING CONTAINMENT AREA VIRGIN ISLANDS NATIONAL PARK	DRAWING NO.. . PMIS/PKG NO. VIIS 244623 SHEET 10 OF 23

DESIGN CRITERIA

1. LIVE LOAD:

   A. 100PSF UNIFORM LIVE LOAD WITH 400LB CONCENTRATED LOAD

2. WIND LOAD:

   A. WIND LOADS CALCULATED IN ACCORDANCE WITH ASCE 7-16
   B. WIND LOAD CRITERIA AND PARAMETERS:
      BASIC DESIGN WIND SPEED: 165 MPH
      RISK CATEGORY: II
      EXPOSURE CATEGORY: D

STEEL PILE DRIVING REQUIREMENTS

1. PILE SERVICE LOADS

STRUCTURE	PILE TYPE	COMPRESSION (TON)	LATERAL (TON)
FIXED PIER	14" Ø x 0.5" SPP	25	3

2. ALL PILES SHALL BE DRIVEN TO THE REQUIRED CAPACITY UNDER NO CIRCUMSTANCES SHALL THE PILE TIP ELEVATION BE HIGHER THAN THE MINIMUM SPECIFIED EMBEDMENT DEPTH INDICATED. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY PILES THAT DO NOT REACH THE REQUIRED PILE TIP ELEVATION.

3. NO JETTING OR SPUDDING ALLOWED. SEE TECHNICAL SPECIFICATIONS FOR DRIVING REQUIREMENTS.

4. CONTRACTOR SHALL COORDINATE PILE DRIVING SCHEDULE SO AS TO NOT INTERFERE WITH OR BE DETRIMENTAL TO THE CONCRETE PLACEMENT AND CURING OPERATIONS.

CODES AND STANDARDS

ALL WORK SHALL CONFORM TO THE MINIMUM REQUIREMENTS FOR THE FOLLOWING CODES AND STANDARDS:

1. INTERNATIONAL BUILDING CODE (IBC), 2018 EDITION.

2. AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE), MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, ASCE/ANSI 7-16.

3. AMERICAN CONCRETE INSTITUTE (ACI), BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY, ACI 318-14, 2014.

4. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS AISC 360-16.

5. AMERICAN WELDING SOCIETY (AWS), STRUCTURAL WELDING CODE - STEEL, AWS D1.1, 2015.

MISCELLANEOUS STEEL

1. ALL STEEL WORK SHALL BE IN ACCORDANCE WITH AISC CODE OF STANDARD PRACTICE FOR STRUCTURAL STEEL FOR BUILDINGS AND BRIDGES (AISC).

2. STEEL PIPE PILES SHALL USE ASTM A252, GRADE 3 (MOD).

3. ALL MISCELLANEOUS STEEL SHAPES, PLATES AND BARS, SHALL CONFORM TO ASTM A36 EXCEPT WHERE NOTED.

4. ALL HSS SECTIONS SHALL USE ASTM A500 GR C.

5. STEEL PLATE NOTED AS GRADE 50 SHALL CONFORM TO ASTM A572, GRADE 50.

6. ALL BOLTS SHALL CONFORM TO ASTM A307, UNO ON THE DRAWINGS.

7. ALL ANCHOR BOLTS SHALL CONFORM TO ASTM F1554, GRADE 55 (TYPICAL), UNO.

8. PROVIDE BLEED HOLES IN EMBEDDED PLATES AND SHAPES AT 24-IN, ON CENTER MAXIMUM.

9. ALL NUTS SHALL BE ASTM A563, UNO.

10. ALL WASHERS SHALL BE ASTM F436, UNO.

11. ALL STEEL ITEMS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A 123 OR ASTM A 153, UNO.

REINFORCED CONCRETE

1. ALL CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH ACI 301, AND CONFORM TO SPECIFICATION SECTION 03 31 29, UNO.

2. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE WITH 28-DAY COMPRESSIVE STRENGTH AS LISTED:

   A. FIXED PIER: 5000PSI
   B. ALL OTHER: 4000PSI

3. ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING STEEL SHALL CONFORM TO THE ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES: ACI 315 AND ACI SP-66.

4. REINFORCING STEEL

   a. ALL REINFORCING STEEL SHALL BE DEFORMED STEEL BARS CONFORMING TO ASTM A615, GRADE 60.

   b. MECHANICAL SPLICES SHALL DEVELOP AT LEAST 125 PERCENT OF THE YIELD STRENGTH OF THE BAR IN TENSION.

   c. REINFORCING SHALL BE SUPPORTED AS SPECIFIED BY THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI) MANUAL OF STANDARD PRACTICE (MSP). REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH THE ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315.

   d. PROVIDE THE FOLLOWING CONCRETE COVER OVER REINFORCEMENT, UNO.

      CONCRETE AGAINST GROUND..... 3"
      EXPOSED CONDITIONS..... 3"

5. ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4 IN.

6. CONSTRUCTION JOINTS SHALL BE PROVIDED ONLY AS NOTED ON THE DRAWINGS AND AS SPECIFICALLY PERMITTED BY THE ENGINEER.

7. PROVIDE MOIST CURING FOR 7 DAYS

8. GROUT SHALL BE NON-METALLIC AND NON-SHRINK WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 8,000 PSI, UNLESS OTHERWISE NOTED.

ADHESIVE ANCHORS

1. USE OF DRILLED ADHESIVE CONCRETE ANCHORS, WHERE NOT SPECIFIED IN THE DOCUMENTS, SHALL BE SUBJECT TO APPROVAL BY THE CONTRACTING OFFICER.

2. EPOXY OR ADHESIVE-TYPE ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SPECIAL INSPECTION IS REQUIRED FOR ADHESIVE ANCHORS.

3. PROVIDE ASTM F1554 GR55 ANCHORS, HOT DIP GALVANIZED, DIAMETER AS NOTED ON THE DETAILS.

4. MINIMUM CONCRETE EMBEDMENT PER MANUFACTURER'S RECOMMENDATIONS.

5. THE EPOXY ADHESIVE MUST BE APPROVED FOR WET AND SUBMERGED USE AND SHALL MEET ALL THE FOLLOWING TYPICAL PERFORMANCE CRITERIA WHEN CURED AT 85 DEGREES FAHRENHEIT.

ASTM C881, TYPES I, II, IV AND V, GRADE 3, CLASSES B & C		
PROPERTY	TEST METHOD	CRITERIA
GEL TIME	ASTM C881/C881M	40 MINUTES
FLEXURAL STRENGTH	ASTM D790	5,500 PSI
SHEAR STRENGTH	ASTM D732	3,500 PSI
BOND STRENGTH , 2 DAYS	ASTM C882/C882M	2,200 PSI
BOND STRENGTH, 14 DAYS	ASTM C882/C882M	4,600 PSI
COMPRESSIVE STRENGTH	ASTM D695	10,000 PSI
COMPRESSIVE MODULUS	ASTM D695	280,000 PSI
WATER ABSORPTION	ASTM D570	0.10 PERCENT

CONCRETE REPAIR:

1. THE DRAWINGS SHOW GENERAL TYPES, LOCATIONS, AND EXTENTS OF DEFECTS, DETERIORATION, AND DAMAGES OBSERVED DURING INSPECTIONS COMPLETED IN SEPTEMBER 2020. THE LOCATIONS AND EXTENTS OF THE DEFECTS AND DAMAGES SHOWN ON THESE DRAWINGS ARE APPROXIMATE. EXACT LOCATIONS AND QUANTITIES FOR REPAIR MUST BE VERIFIED IN THE FIELD.

2. THE CONTRACTOR SHALL PREPARE THE REPAIR AREAS BY REMOVING MARINE GROWTH, DEGRADED/LOOSE CONCRETE, AND CORROSION BY-PRODUCTS AS NECESSARY TO QUANTIFY THE EXTENT OF THE REPAIR. THE CONTRACTOR SHALL PRODUCE A DETAILED REPAIR TABLE INDICATING THE TYPE, LOCATION, GEOMETRY, AND QUANTITY OF REPAIR. REPAIR TABLE SHALL BE INCLUDED IN THE AS-BUILT DRAWINGS.

3. CONCRETE WORK SHALL COMPLY WITH THE PROVISIONS OF ACI 301 AND ACI 318, UNLESS NOTED OTHERWISE.

4. REINFORCING IN THE REPAIR AREAS SHALL BE PROVIDED WITH A MINIMUM OF 3 INCHES CONCRETE COVER OR MATCH EXISTING UNLESS NOTED OTHERWISE.

5. EXPOSED CONCRETE EDGES SHALL HAVE A 3/4 INCH CHAMFER, OR MATCH EXISTING CHAMFER UNLESS NOTED OTHERWISE.

6. CAST-IN-PLACE CONCRETE COMPRESSIVE STRENGTH SHALL BE 4,000 PSI (MINIMUM) AT 28 DAYS. PROVISIONS OF THE AMERICAN CONCRETE INSTITUTE (ACI 318-14) UNLESS NOTED OTHERWISE.

7. CAST-IN-PLACE REPAIR CONCRETE SHALL CONFORM TO SPECIFICATION SECTION 03 31 29.

8. CONCRETE REPAIRS CONSIST OF SMALL PATCH REPAIRS. NO DISTINCTION IS MADE BETWEEN SPALLS AND DELAMINATIONS SINCE REPAIRS ARE THE SAME.

9. REMOVE DELAMINATED OR DETERIORATED CONCRETE UNTIL SOUND CONCRETE IS ENCOUNTERED. CHIPPED OUT AREA SHALL EXTEND AN ADDITIONAL 3" ALL AROUND.

10. CHECK SURFACES TO ENSURE THEY ARE FREE FROM LOOSE AGGREGATE OR ADDITIONAL DELAMINATIONS.

11. CHIPPED OUT AREA SHALL BE NOT LESS THAN 1" CLEAR AROUND ALL EXPOSED REINFORCING BARS.

12. EDGES OF THE CHIPPED OUT AREA SHALL BE SAWCUT PERPENDICULAR TO THE CONCRETE SURFACE FOR A MINIMUM DEPTH OF 1". DO NOT SAWCUT THROUGH EXISTING REINFORCING BARS. SAWCUT SHALL NOT EXTEND BEYOND CHIPPED OUT AREA.

13. EXPOSED REINFORCING BARS SHALL BE CLEANED OF SCALE, RUST, DIRT, OIL, AND OTHER DELETERIOUS MATERIALS.

14. REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60, UNLESS NOTED OTHERWISE.

15. WELDING OF REINFORCING BARS SHALL CONFORM TO AWS D1.4. WELDING OF STAINLESS STEEL MATERIAL SHALL CONFORM TO AWS D1.6. E70XX LOW-HYDROGEN ELECTRODES SHALL BE USED IN WELDING ASTM A-706 BARS.

16. SPLICES SHALL BE STAGGERED BY LENGTH OF SPLICE OR 6" MINIMUM, WITH NO MORE THAN 50% OF THE BARS BEING SPLICED AT ANY ONE LOCATION.

17. FORMS SHALL BE WATER TIGHT.

18. DO NOT FEATHER EDGES OF REPAIR.

19. AT INTERFACES BETWEEN EXISTING AND NEW CONCRETE, ROUGHEN EXISTING SURFACE TO 1/4" AMPLITUDE MINIMUM.

REINFORCEMENT EVALUATION NOTES:

1. WHERE REINFORCING STEEL IS ENCOUNTERED, THE CONTRACTOR MUST ASSESS CONDITION AND REPAIR IF NECESSARY PRIOR TO COMPLETING CONCRETE REPAIRS. REMOVE ALL HEAVY CORROSION AND SCALE FROM REINFORCING BARS BY HAND TOOLS OR WIRE BRUSH.

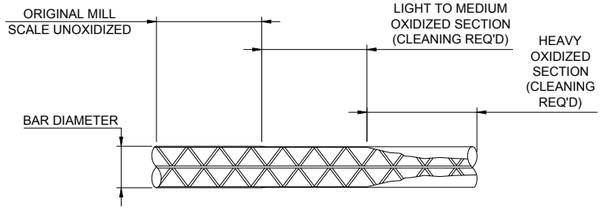
2. MEASURE EXPOSED BAR DIAMETERS TO DETERMINE ORIGINAL BAR SIZE AND EXISTING DIAMETER.

3. EVALUATE EXPOSED REINFORCEMENT SECTION LOSS FOR EACH REPAIR AS FOLLOWS:

   A. STIRRUPS:
      SINGLE/MULTIPLE BARS: REPAIR ANY BAR W/ A SECTION LOSS GREATER THAN 10% (SEE ALLOWABLE BAR DIAMETER CHART, 90% AREA)

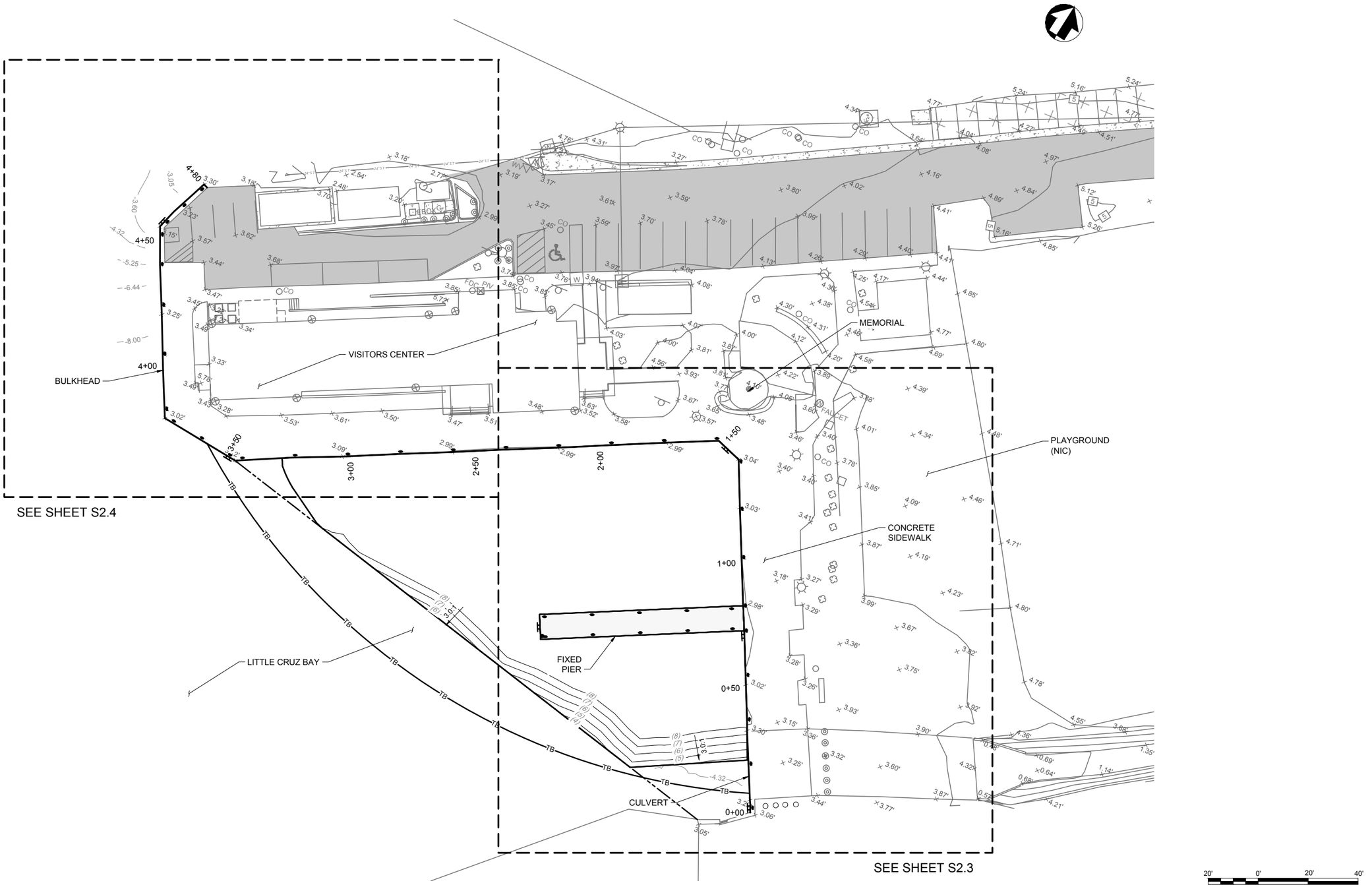
   B. LONGITUDINAL:
      SINGLE BAR: REPAIR ANY BAR WITH A SECTION LOSS GREATER THAN 25% (SEE ALLOWABLE BAR CHART, 75% AREA)
      MULTIPLE BARS: NOTIFY THE ENGINEER IF THE TOTAL AREA LOSS FOR A GROUP OF BARS EXCEEDS 10% (THE ENGINEER SHALL DETERMINE THE NEED & EXTENT OF REINF REPAIR BASED ON REBAR TYPE, LOCATION, & REINF DESIGN).

4. ALLOWABLE BAR DIAMETER CHART: THE 75% AREA DIAMETER COLUMN LISTS THE DIAMETER OF BARS CORRESPONDING TO A 25% LOSS OF STEEL. SIMILARLY, THE 80% AND 90% AREA DIAMETER COLUMNS REFER TO THE DIAMETER CORRESPONDING TO 20% AND 10% LOSS OF STEEL RESPECTIVELY.



ALLOWABLE BAR DIAMETER CHART				
BAR SIZE	100% AREA (SQ IN)	90% AREA DIAMETER	80% AREA DIAMETER	75% AREA DIAMETER
#3	0.11	11/32"	11/32"	5/16"
#4	0.20	15/32"	15/32"	7/16"
#5	0.31	19/32"	9/16"	17/32"
#6	0.44	23/32"	11/16"	21/32"
#7	0.60	27/32"	25/32"	3/4"
#8	0.79	15/16"	29/32"	7/8"
#9	1.00	1 1/16"	1 1/32"	31/32"
#10	1.27	1 7/32"	1 5/32"	1 3/32"
#11	1.56	1 11/32"	1 9/32"	1 7/32"

A/E FIRM **CROFT KENNESAW, GERGIA.** **MOFFATT & NICHOL MIAMI, FLORIDA**	DESIGNED: MGC CADD: MM TECH REVIEW: MAP DATE: 2021-04-16	SUB SHEET NO. S2.1	TITLE OF SHEET CRUZ BAY VISITOR CENTER STRUCTURAL NOTES VIRGIN ISLANDS NATIONAL PARK	DRAWING NO.. . . PMIS/PKG NO. VIIS 244623 SHEET 11 OF 23

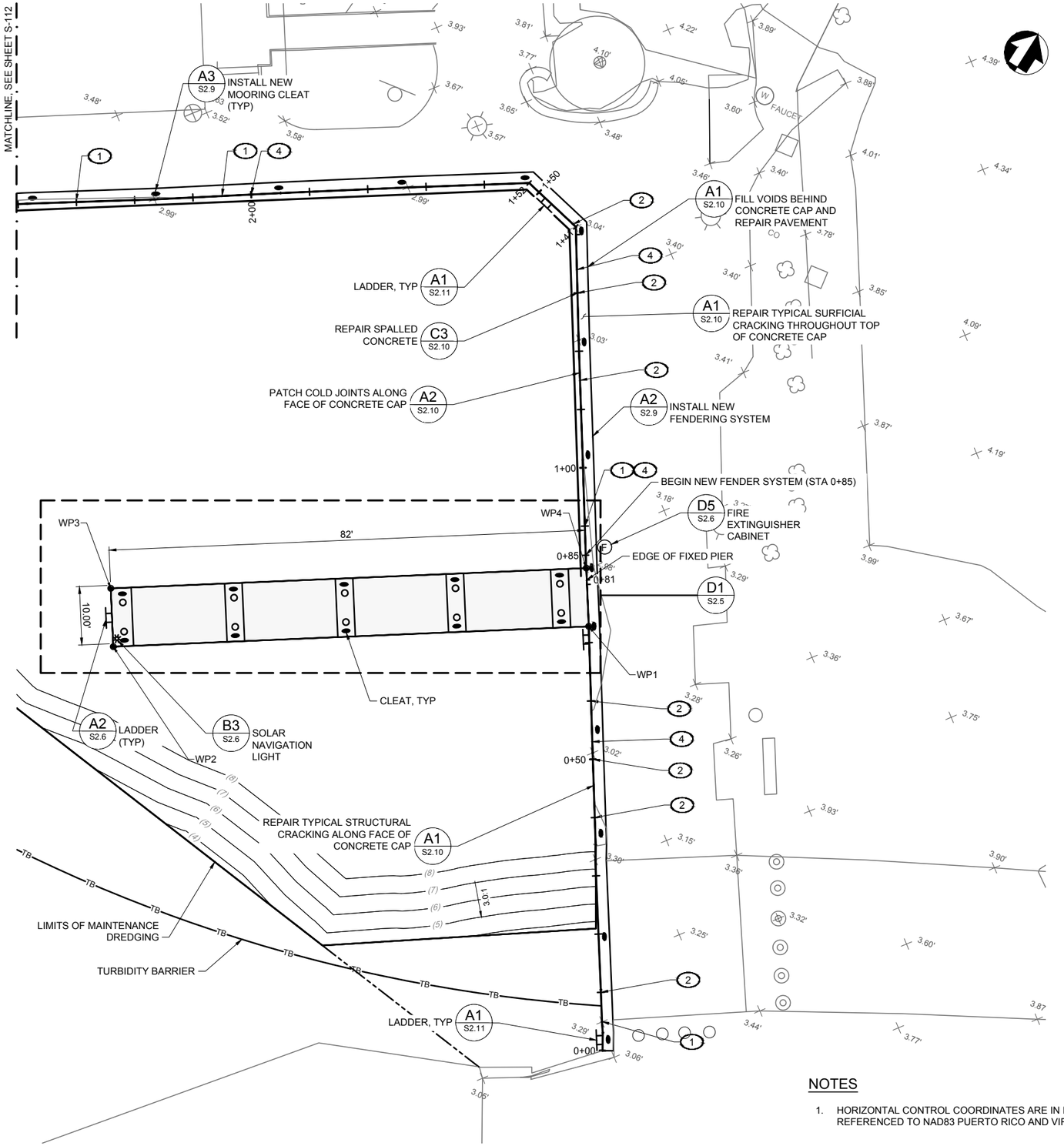


20' 0' 20' 40'

SCALE: 1"=20'

A/E FIRM **CROFT KENNESAW, GERGIA.** **MOFFATT & NICHOL MIAMI, FLORIDA.**	DESIGNED: MGC CADD MM TECH REVIEW: MAP DATE: 2021-04-16	SUB SHEET NO. S2.2	TITLE OF SHEET CRUZ BAY VISITOR CENTER SITE PLAN VIRGIN ISLANDS NATIONAL PARK	DRAWING NO.. . . PMIS/PKG NO. VIIS 244623 SHEET 12 OF 23

File: Q:\MIA\11152\0500_CAD_Active_Bulkhead Repairs\11152005S2.2; Plotted: 4/16/2021 7:52 PM by MARTINEZ, MIGUEL; Saved: 4/16/2021 4:37 PM by MAMARTINEZ



DEFECT REPAIR TABLE

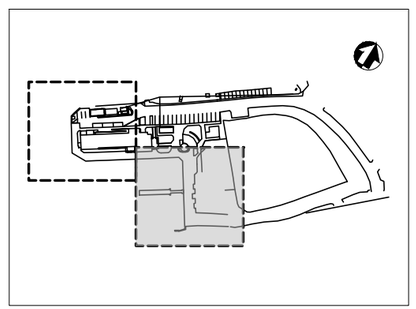
KEYNOTE	STATION	DEFECT	WIDTH	DEPTH	LENGTH
1	0+05	CRACK	1/8" - 1/2"	-	Full
2	0+10	SPALL	8"	8"	15'
2	0+40	SPALL W/ EFFLO	6"	6"	1'
2	0+50	SPALL	2"	2"	1'
4	0+53	VOID BEHIND WALL	2'	21"	-
2	0+60	SPALL	12"	6"	1'
1	0+90	CRACK	1/16"	-	-
4	0+90	VOID BEHIND WALL	24"	21"	-
2	1+15	CORNER SPALL	6"	2"	5'
2	1+30	SPALL	6"	8"	1'
4	1+34	VOID BEHIND WALL	12"	25"	-
2	1+42	(2) SPALLS	3"	6"	0'-8"
4	2+00	CORNER SPALL	3"	6"	2'-6"
1	2+05	CRACK	3/16"	-	5'
1	2+30	CRACK	3/16"	-	15'
-	THROUGHOUT	COLDJOINT GAP	-	-	-
-	THROUGHOUT	SURFICIAL CRACKING	-	-	-
-	THROUGHOUT	LONGITUDINAL CRACKING	FULL	-	-
-	THROUGHOUT	MINOR RANDOM SPALLING	<6"	<1"	<6"

WORKING POINT TABLE

WP #	NORTHING	EASTING	DESCRIPTION
1	840015.45	1224917.35	SE CORNER OF FIXED PIER
2	839981.22	1224843.30	SW CORNER OF FIXED PIER
3	839990.29	1224839.11	NW CORNER OF FIXED PIER
4	840024.53	1224913.16	NE CORNER OF FIXED PIER

LEGEND

- (4) KEYNOTE
- (F) FIRE EXTINGUISHER
- PILE
- CLEAT
- LADDER
- NAVIGATION LIGHT
- WP3 WORK POINT



KEY MAP

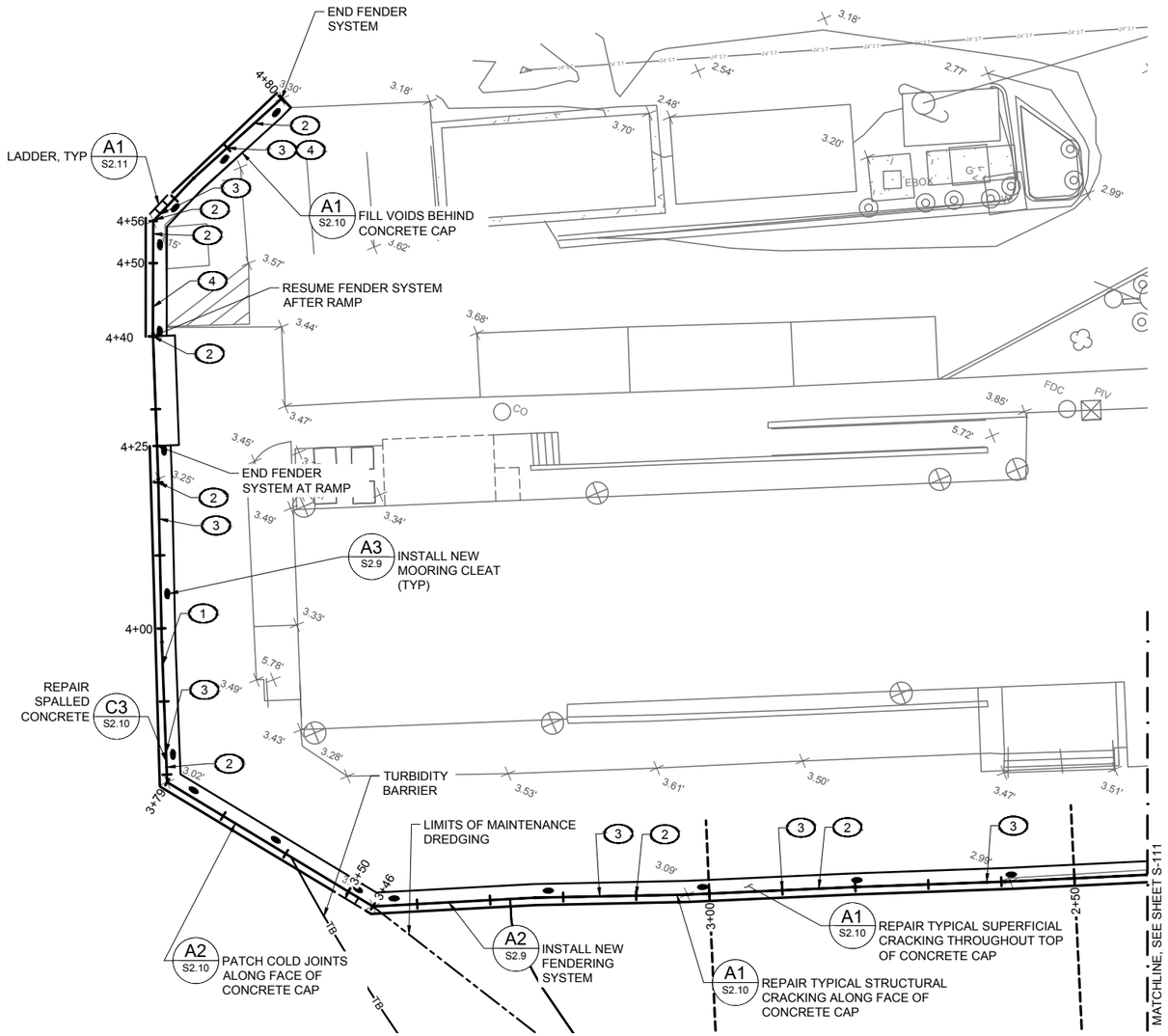
10' 0' 10' 20'

SCALE: 1"=10'

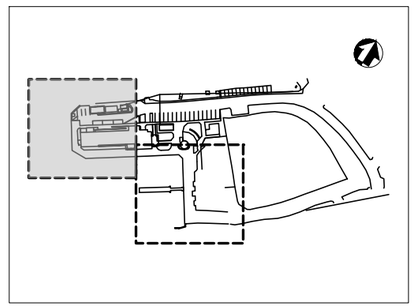
NOTES

1. HORIZONTAL CONTROL COORDINATES ARE IN FEET AND ARE REFERENCED TO NAD83 PUERTO RICO AND VIRGIN ISLANDS.

A/E FIRM: **CROFT KENNESAW, GERGIA.** **MOFFATT & NICHOL MIAMI, FLORIDA.**	DESIGNED: MGC; CADD: MM; TECH REVIEW: MAP; DATE: 2021-04-16	SUB SHEET NO. S2.3	TITLE OF SHEET: CRUZ BAY VISITOR CENTER STRUCTURAL SITE PLAN (1 OF 2) VIRGIN ISLANDS NATIONAL PARK	DRAWING NO.: . . PMIS/PKG NO.: VIIS 244623 SHEET: 13 OF 23



DEFECT REPAIR TABLE					
KEYNOTE	STATION	DEFECT	WIDTH	DEPTH	LENGTH
3	2+62	COLD JOINT	-	-	-
2	2+85	SPALL	5"	2"	0'-8"
3	2+90	COLD JOINT	1/4"	4"	14'
2	3+10	FAILED PATCH	4"	2"	12'-2"
3	3+15	VOID	2"	40"	0'-2"
2	3+51	SPALL	8"	8"	1'-8"
2	3+81	SPALL	8"	4"	4'
3	3+81	VOID	8"	6"	2'
1	3+81	(2) CRACK	1/4"	-	3'
3	3+83	COLD JOINT	-	-	-
3	3+90	VOID	3"	8"	0'-6"
1	3+95	(2) CRACK	1/4"		3'
3	4+15	FAILED PATCH	12"	5"	12
2	4+20	FAILED PATCH	10"	10"	6'
2	4+40	SPALL	4"	2"	0'-8"
4	4+44	VOID BEHIND WALL	12"	22"	3'
2	4+54	SPALL	8"	4"	2'
2	4+56	SPALL	9"	22"	3'
4	4+57	VOID BEHIND WALL	5"	22"	8'
2	4+58	SPALL	6"	12"	2'
3	4+70	VOID	1"	8"	1'
4	4+70	VOID BEHIND WALL	10"	10"	3'
2	4+75	SPALL	6"	1"	1'
-	THROUGHOUT	COLDJOINT GAP	-	-	-
-	THROUGHOUT	SURFICIAL CRACKING	-	-	-
-	THROUGHOUT	LONGITUDINAL CRACKING	FULL	-	-
-	THROUGHOUT	MINOR RANDOM SPALLING	<6"	<1"	<6"

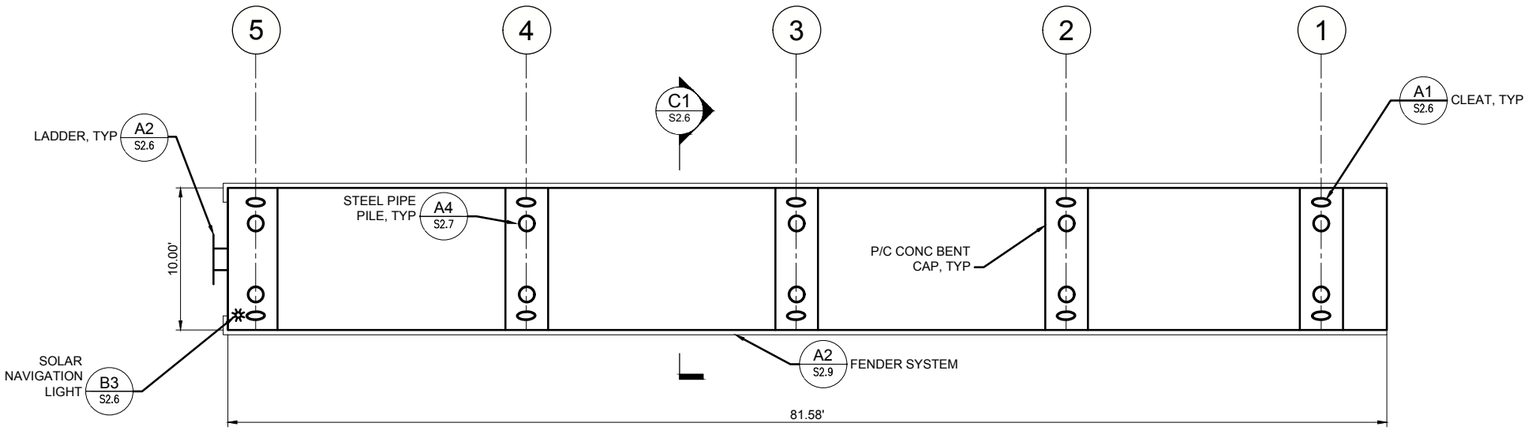


KEY MAP

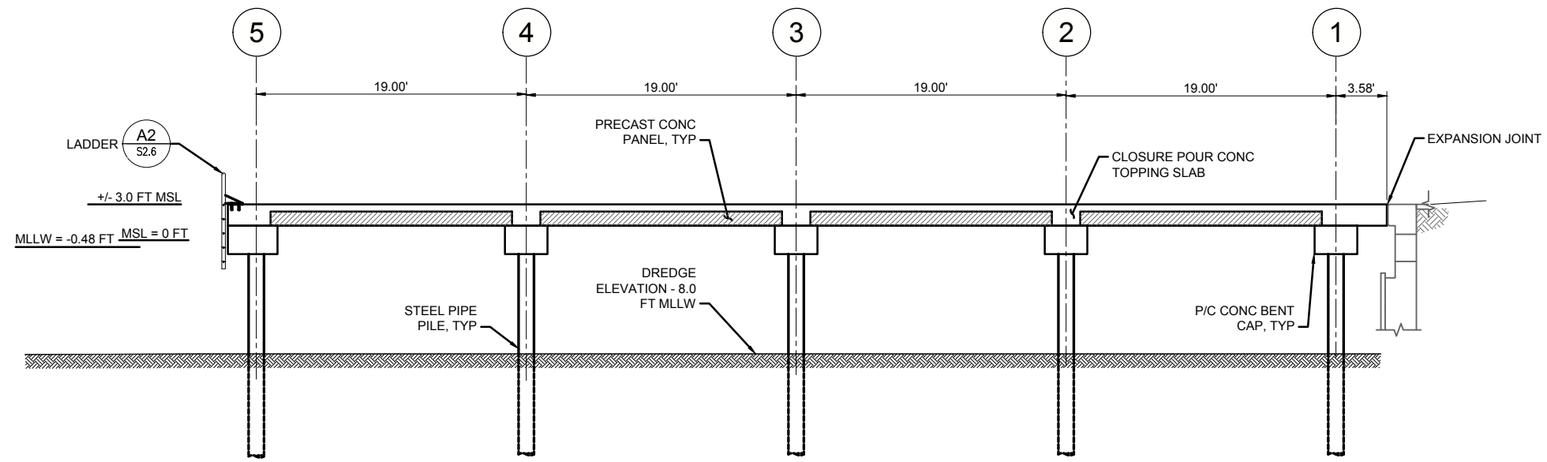
10' 0' 10' 20'

SCALE: 1"=10'

A/E FIRM **CROFT KENNESAW, GERGIA.** **MOFFATT & NICHOL MIAMI, FLORIDA.**	DESIGNED: MGC CADD MM TECH REVIEW: MAP DATE: 2021-04-16	SUB SHEET NO. S2.4	TITLE OF SHEET CRUZ BAY VISITOR CENTER STRUCTURAL SITE PLAN (2 OF 2) VIRGIN ISLANDS NATIONAL PARK	DRAWING NO.. . . PMIS/PKG NO. VIIS 244623 SHEET 14 OF 23



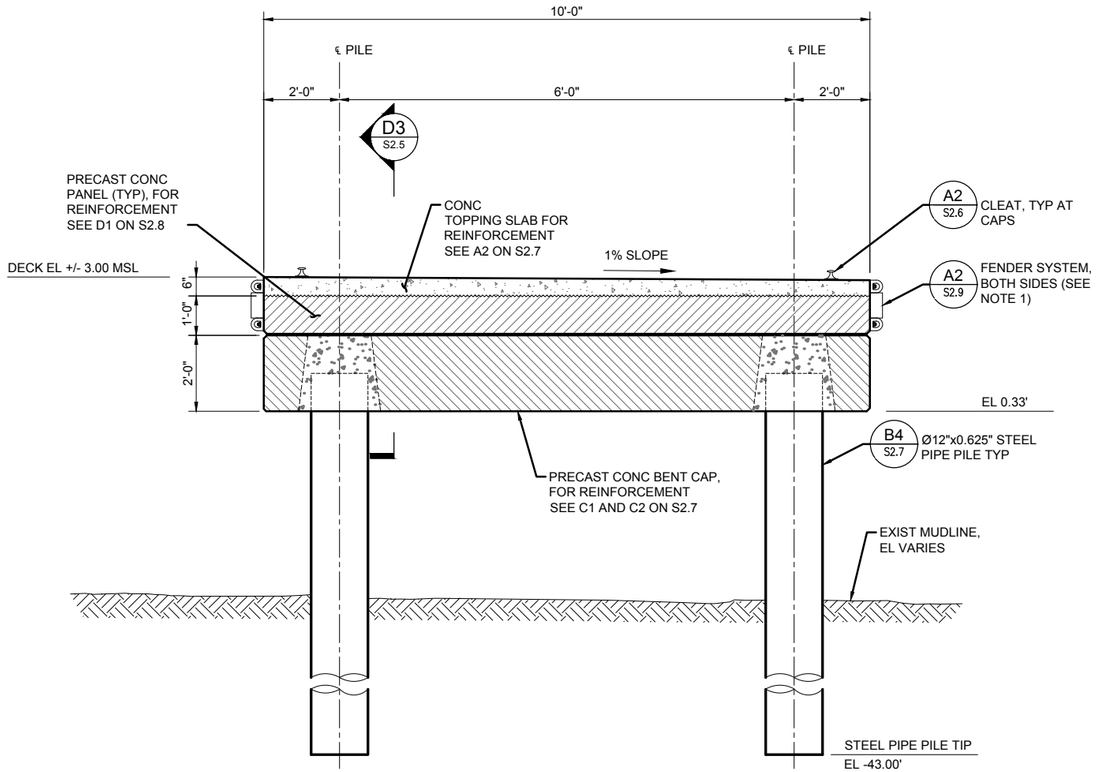
D1 S2.3 **PLAN VIEW**
SCALE: 3/16" = 1'-0"



B1 S2.5 **ELEVATION**
SCALE: 3/16" = 1'-0"

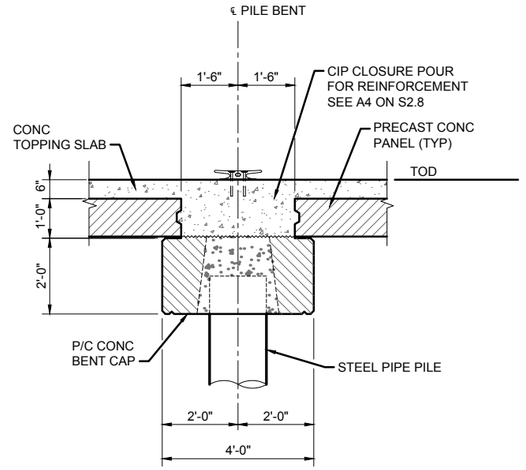
8' 0'-0" 4' 8'
SCALE: 3/16"=1'-0"

A/E FIRM **CROFT KENNESAW, GERGIA.** **MOFFATT & NICHOL MIAMI, FLORIDA.**	DESIGNED: MGC CADD MM TECH REVIEW: MAP DATE: 2021-04-16	SUB SHEET NO. S2.5	TITLE OF SHEET CRUZ BAY VISITOR CENTER FIXED PIER VIRGIN ISLANDS NATIONAL PARK	DRAWING NO.. . . PMIS/PKG NO. VIIS 244623 SHEET 15 OF 23

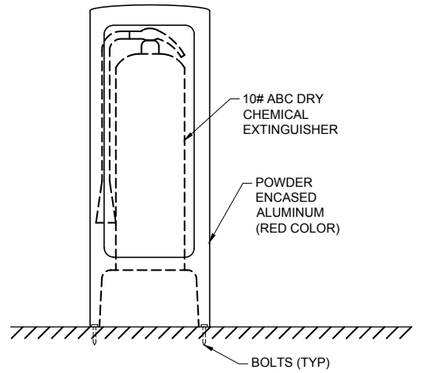


NOTE:
1. MOUNT FENDERS ON PIER PER MANUFACTURER'S RECOMMENDATIONS.

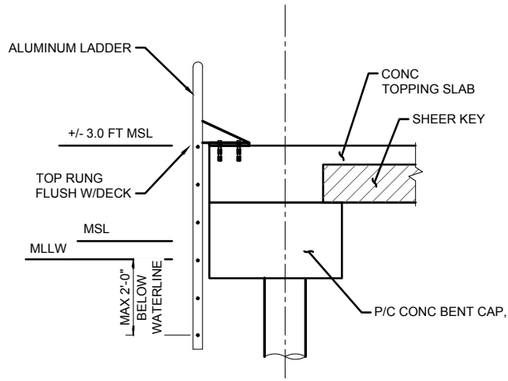
C1 S2.5 TYPICAL SECTION AT FIXED PIER-WALKWAY
SCALE: 1/2" = 1'-0"



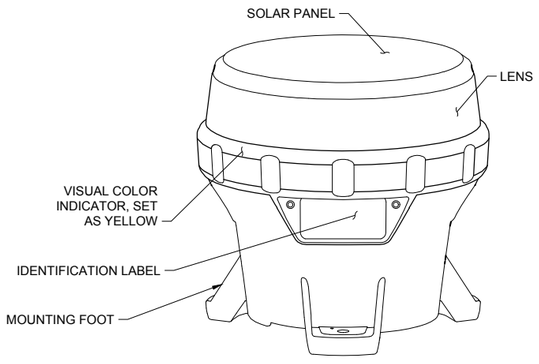
D3 S2.5 SECTION
SCALE: 1/2" = 1'-0"



D5 S2.3 DETAIL - FIRE EXTINGUISHER CABINET
SCALE: NOT TO SCALE



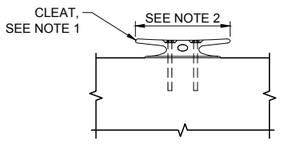
A2 S2.3 DETAIL - LADDER
SCALE: 1/2" = 1'-0"
S2.5



B3 S2.3 SOLAR NAVIGATION LIGHT
SCALE: NOT TO SCALE

SOLAR NAVIGATION LIGHT NOTES:

1. PROVIDE COMBINED METERING AND GROUND FAULT PROTECTION (CURRENT TRANSFORMERS AND RELAYS) ON A PER SLIP BASIS. GROUND FAULT PROTECTION SHALL SHUNT TRIP INDIVIDUAL SLIP CIRCUIT BREAKERS ON PEDESTAL. NO ADJACENT SLIP SHALL BE AFFECTED BY TRIP EVENT.
2. SOLAR PANEL WITH BYPASS BLOCKING DIODE FUNCTION AND MAXIMUM POWER POINT (MPPT).
3. LED LIGHT SOURCE WITH TEMPERTURE-CORRECTED LED DRIVERS. SELECTABLE FLASH PATTERNS. SELECTABLE INTENSITY FROM 25 TO 925 LUX. SELECTABLE COLOR TO BE YELLOW
4. LUMINAIRE SHALL BE MANUFACTURER CARMANAH MODEL: #M550 OR APPROVED EQUAL. -45 TO 124 FAHRENHEIT AMBIENT OPERATING TEMPERATURE. USCG PATON 33CFR66 & CFR67 CLASS C COMPLAINT.
5. SOLAR POWER NAVIGATIONAL SHALL BE INSTALLED AS SHOWN ON DRAWINGS. SECURE NAVIGATIONAL LIGHT WITH 316 STAINLESS STEEL HARDWARE. LOCATE LIGHT IN OPTIMUM LOCATION VISIBLE TO APPROACHING VESSELS, PROTECTED FROM ARTIFICIAL LIGHT SOURCES AND PROTECTION FROM POSSIBLE DAMAGE.



NOTES:

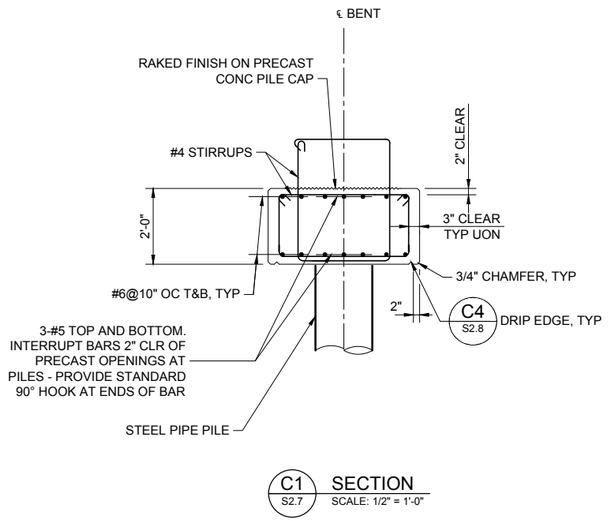
1. MOUNT CLEAT ON PIER OR CAP PER MANUFACTURER'S RECOMMENDATIONS IN CAP CLOSURE POUR.
2. 16" HEAVY DUTY DOCK CLEAT. SCHOELLHORM-ALBRECHT S1153-16 OR APPROVED EQUAL.

A1 S2.5 DETAIL - CLEAT
SCALE: 1" = 1'-0"
S2.6, S2.9

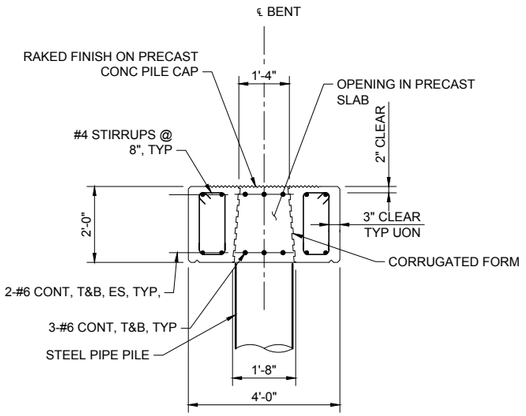
SCALE: 1/2"=1'-0"

SCALE: 1"=1'-0"

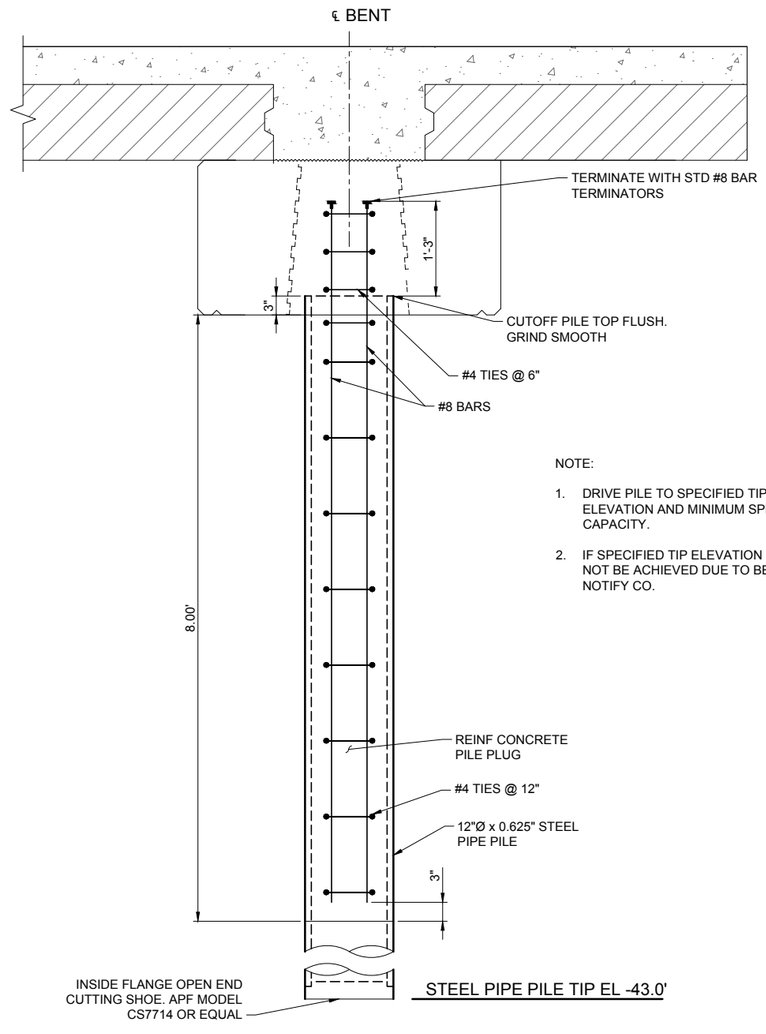
A/E FIRM: **CROFT KENNESAW, GERGIA.** **MOFFATT & NICHOL MIAMI, FLORIDA.**	DESIGNED: MGC; CADD: MM; TECH REVIEW: MAP; DATE: 2021-04-16	SUB SHEET NO.: S2.6	TITLE OF SHEET: CRUZ BAY VISITOR CENTER FIXED PIER DETAILS (1 OF 3) VIRGIN ISLANDS NATIONAL PARK	DRAWING NO.: . . ; PMIS/PKG NO.: VIIS 244623; SHEET: 16 OF 23



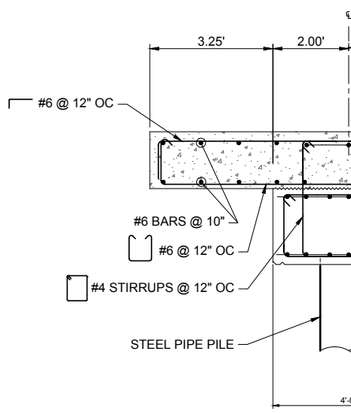
C1 S2.7 SECTION
SCALE: 1/2" = 1'-0"



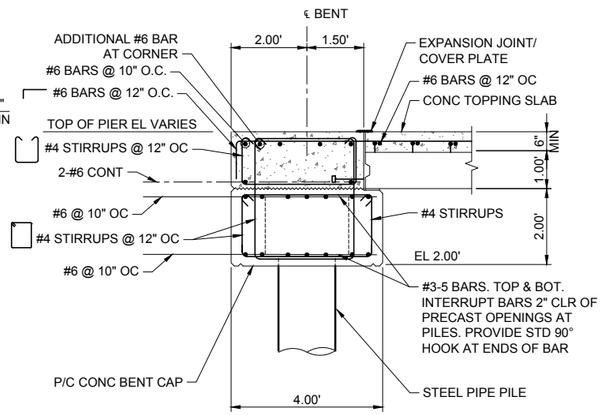
C2 S2.7 SECTION
SCALE: 1/2" = 1'-0"



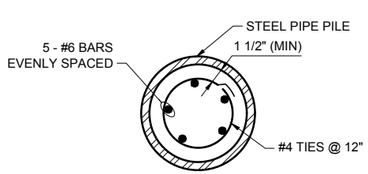
B4 S2.7 DETAIL - FIXED PIER PILE PLUG
SCALE: 1" = 1-0"



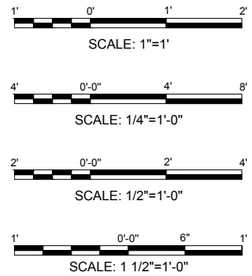
A1 S2.7 SECTION
SCALE: 1/2" = 1'-0"



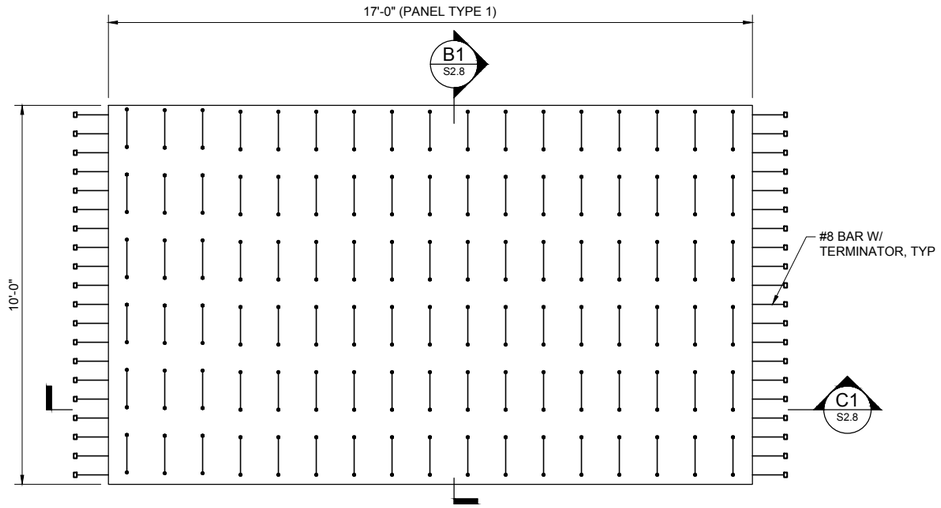
A2 S2.7 SECTION
SCALE: 1/2" = 1'-0"



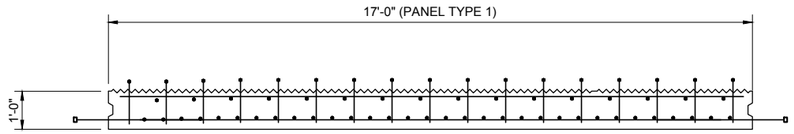
A4 S2.5 SECTION - PILE PLUG
SCALE: 1 1/2" = 1'-0"



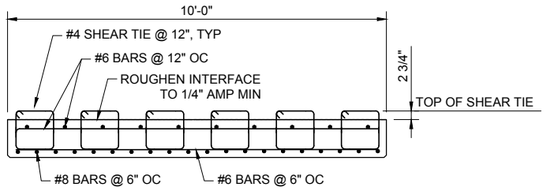
A/E FIRM **CROFT KENNESAW, GERGIA.** **MOFFATT & NICHOL MIAMI, FLORIDA**	DESIGNED: MGC CADD: MM TECH REVIEW: MAP DATE: 2021-04-16	SUB SHEET NO. S2.7	TITLE OF SHEET CRUZ BAY VISITOR CENTER FIXED PIER DETAILS (2 OF 3) VIRGIN ISLANDS NATIONAL PARK	DRAWING NO.. . . PMIS/PKG NO. VIIS 244623 SHEET 17 OF 23



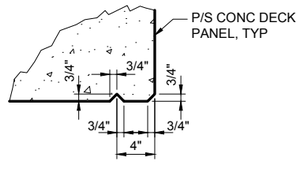
D1 S2.8 PRECAST CONCRETE PANEL PLAN
SCALE: 1/2" = 1'-0"



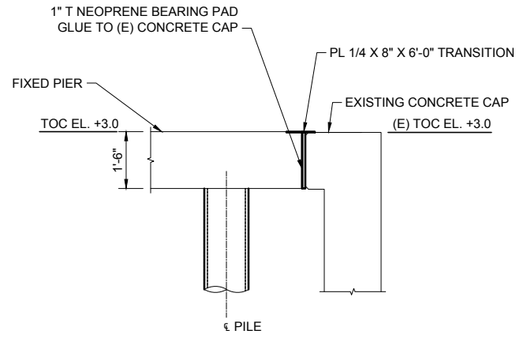
C1 S2.8 SECTION
SCALE: 1/2" = 1'-0"



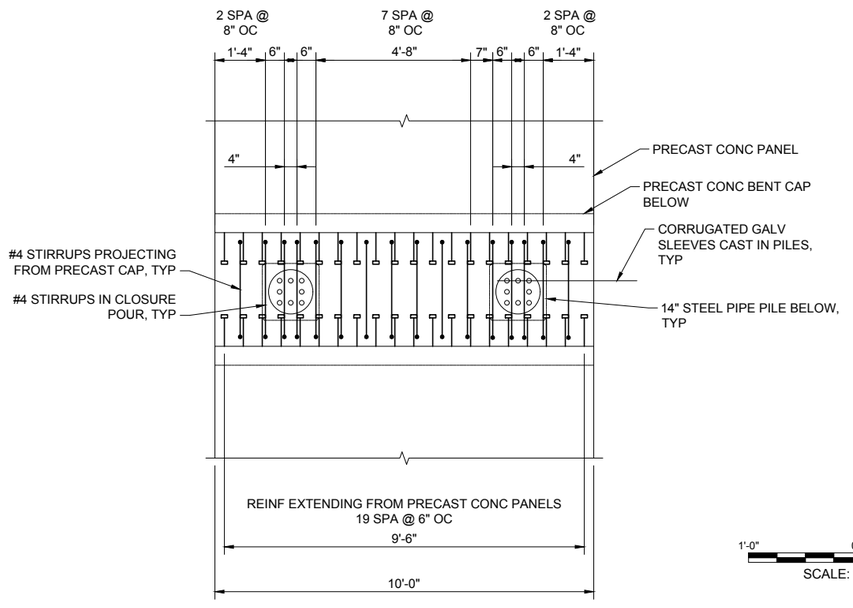
B1 S2.8 SECTION
SCALE: 1/2" = 1'-0"



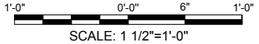
C4 S2.8 DRIP EDGE DETAIL
SCALE: 1 1/2" = 1'-0"



D4 S2.8 SECTION
SCALE: 1/2" = 1'-0"



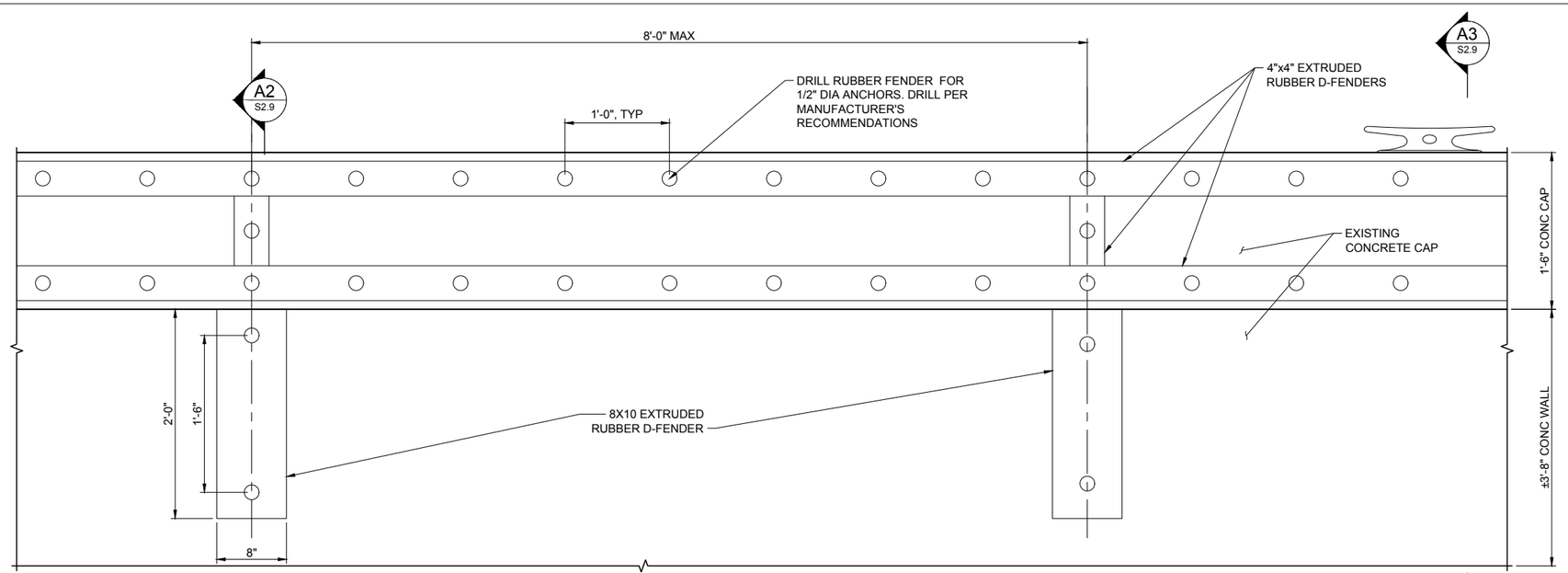
A4 S2.8 FIXED PIER CLOSURE POUR DETAIL
SCALE: 1/2" = 1'-0"



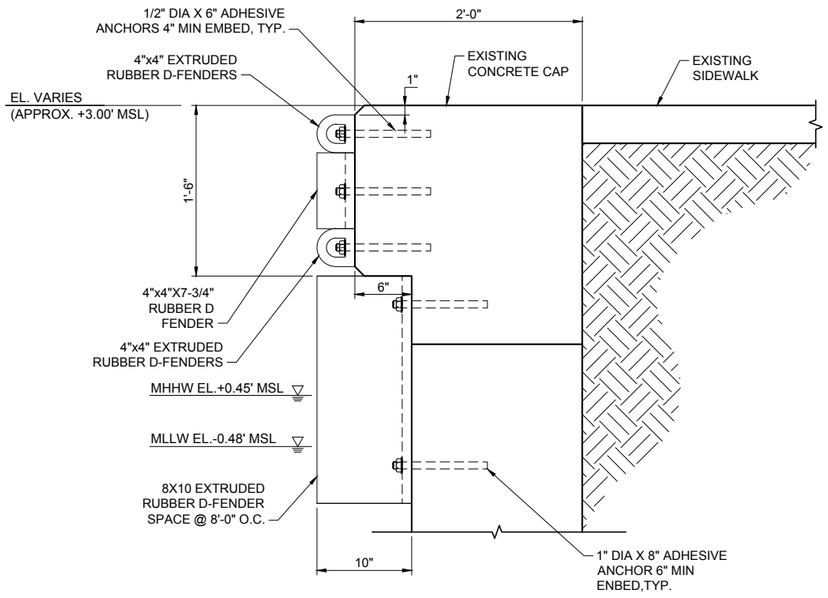
SCALE: 1 1/2"=1'-0"

SCALE: 1/2"=1'-0"

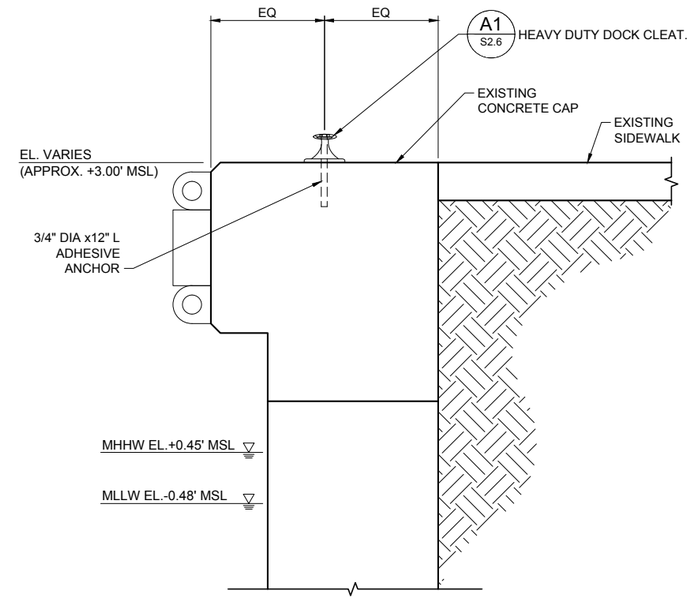
A/E FIRM **CROFT KENNESAW, GERGIA.** **MOFFATT & NICHOL MIAMI, FLORIDA**	DESIGNED: MGC CADD MM TECH REVIEW: MAP DATE: 2021-04-16	SUB SHEET NO. S2.8	TITLE OF SHEET CRUZ BAY VISITOR CENTER FIXED PIER DETAILS (3 OF 3) VIRGIN ISLANDS NATIONAL PARK	DRAWING NO.. . . PMIS/PKG NO. VIIS 244623 SHEET 18 OF 23



A1 S2.3 (S2.4) TYPICAL BULKHEAD ELEVATION
SCALE: 1 1/2"=1'-0"



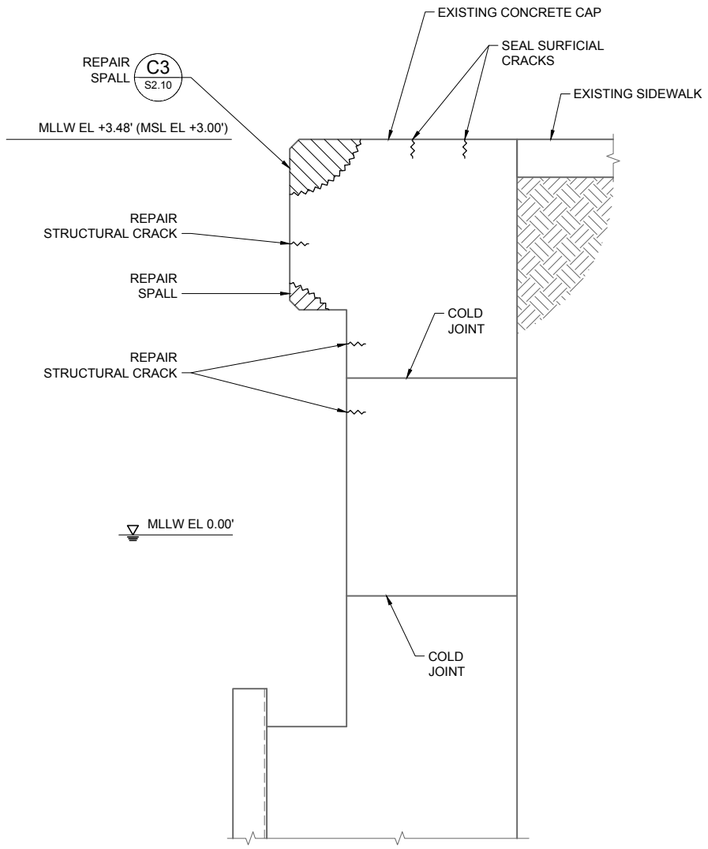
A2 S2.4 NEW FENDER DETAIL
SCALE: 1 1/2"=1'-0"

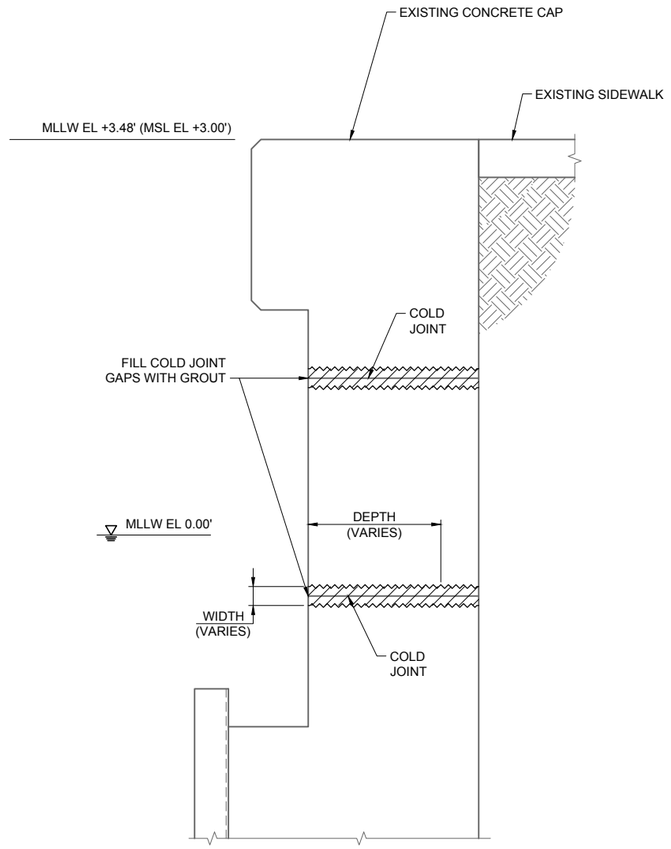


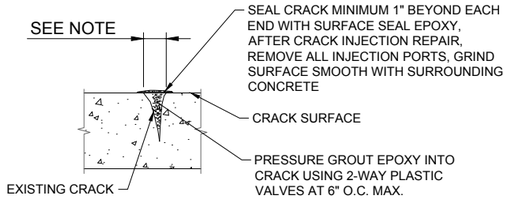
A3 S2.3 NEW CLEAT DETAIL
SCALE: 1 1/2"=1'-0"

1'-0" 0'-0" 6" 1'-0"
SCALE: 1 1/2"=1'-0"

A/E FIRM **CROFT KENNESAW, GERGIA.** **MOFFATT & NICHOL MIAMI, FLORIDA**	DESIGNED: MGC DRAWN: MM TECH REVIEW: MAP DATE: 2021-04-16	SUB SHEET NO. S2.9	TITLE OF SHEET CRUZ BAY VISITOR CENTER BULKHEAD REPAIRS DETAILS (1 OF 2) VIRGIN ISLANDS NATIONAL PARK	DRAWING NO.. . . PMIS/PKG NO. VIIS 244623 SHEET 19 OF 23

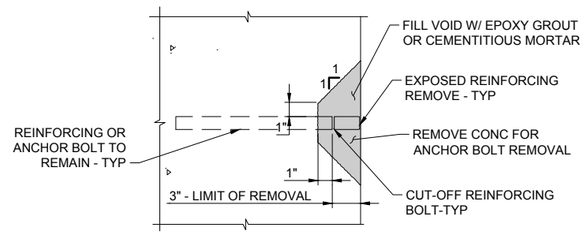






NOTE:
1. SOUND CONCRETE AT CRACK REPAIR LOCATIONS TO IDENTIFY CLOSED SPALLS. IF CLOSED SPALLS ARE ENCOUNTERED.
2. OPEN STRUCTURAL CRACKS TO A WIDTH OF 1/4" WIDE BY 1" DEEP.

C4 S2.10 DETAIL - STRUCTURAL CRACK REPAIR
SCALE: 3/4" = 1'-0"



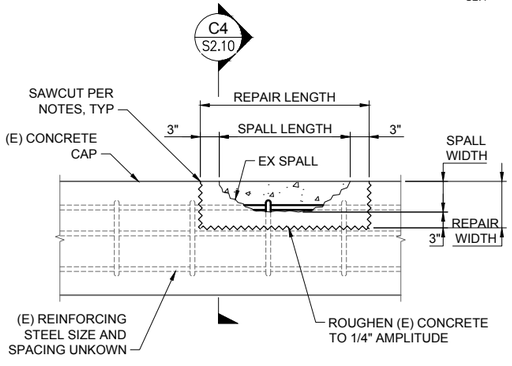
C2 D2 TYPICAL EXISTING ANCHOR BOLT CUT-OFF
SCALE: 3/4" = 1'-0"

NOTES:

1. REMOVE LOOSE DEBRIS AND MARINE GROWTH PRIOR TO FILLING VOIDS.
2. VOIDS DEEPER THAN 12" MUST BE FILLED TO A MINIMUM DEPTH OF 12".
3. CHIP-OUT AND REMOVE EXISTING SOFT GROUT PATCH MATERIAL WHERE ENCOUNTERED.

A1 S2.3 TYPICAL CAP REPAIR LOCATIONS
S2.4 SCALE: 1/2" = 1'-0"

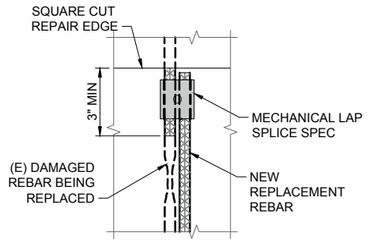
A2 S2.3 COLD JOINT REPAIRS
S2.4 SCALE: 1/2" = 1'-0"



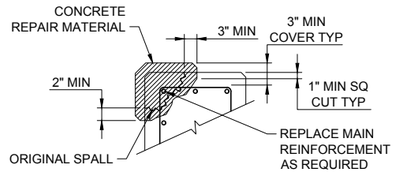
NOTES:

1. REFER TO CONCRETE REPAIR NOTES FOR DETAILED REPAIR STEPS.
2. PROTECT EXISTING REINFORCED STEEL, REPLACE AND SPLICE AS REQUIRED BY CONCRETE REPAIR NOTES.

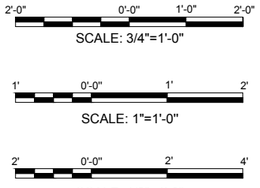
C3 S2.3 TYPICAL SPALL REPAIR
S2.4 SCALE: 1/2" = 1'-0"



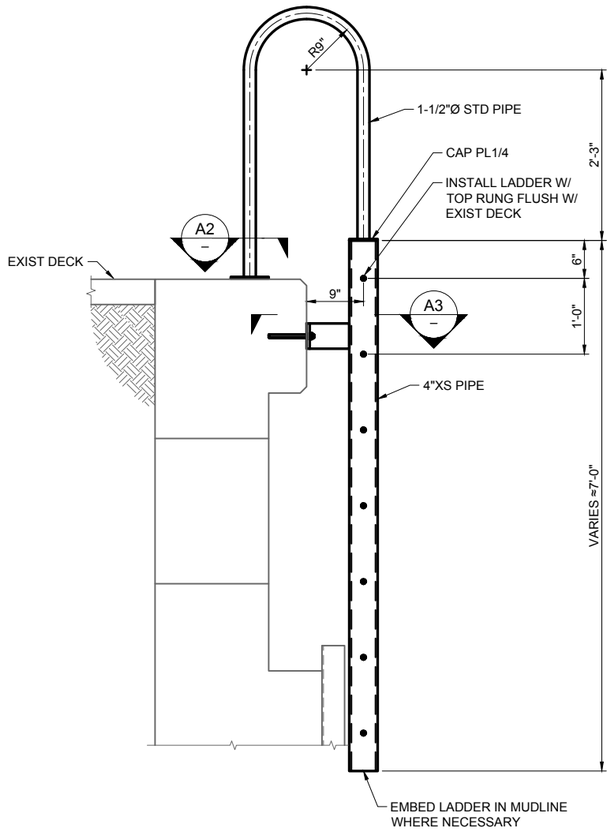
C1 S2.10 DETAIL - MECHANICAL LAP SPLICE
SCALE: NTS



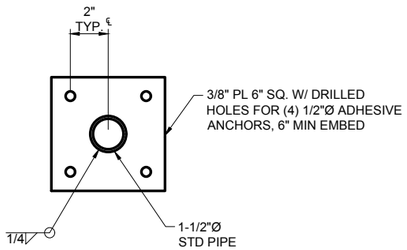
C5 S2.10 SECTION
SCALE: 1/2" = 1'-0"



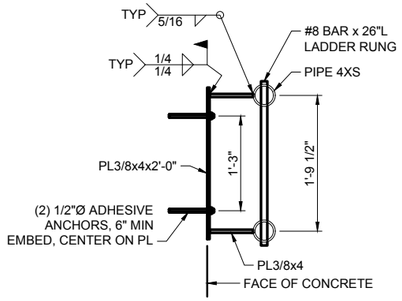
A/E FIRM: **CROFT KENNESAW, GERGIA.** **MOFFATT & NICHOL MIAMI, FLORIDA**	DESIGNED: MGC; CADD: MM; TECH REVIEW: MAP; DATE: 2021-04-16	SUB SHEET NO.: S2.10	TITLE OF SHEET: CRUZ BAY VISITOR CENTER BULKHEAD REPAIRS DETAILS (2 OF 2) VIRGIN ISLANDS NATIONAL PARK	DRAWING NO.: . . ; PMIS/PKG NO.: VIIS 244623; SHEET: 20 OF 23



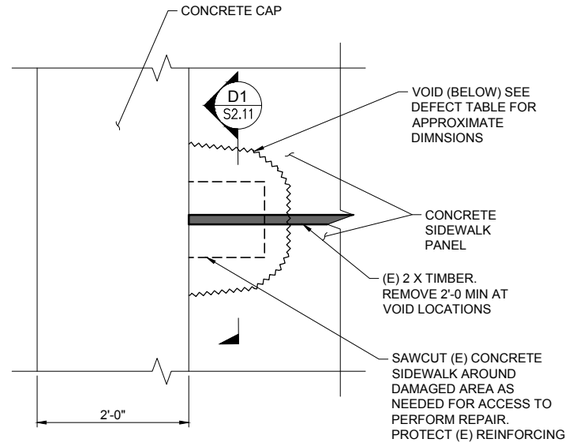
A1 / S2.3 — LADDER ELEVATION
SCALE: 1" = 1'-0"
S2.4



A2 / S2.11 — LADDER SECTION
SCALE: 3" = 1'-0"



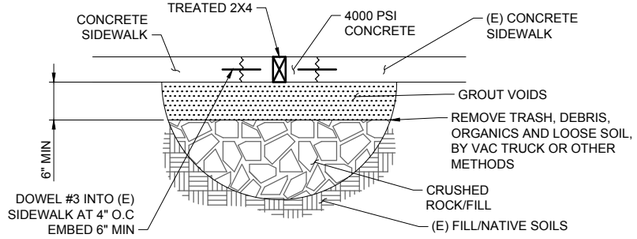
A3 / S2.11 — LADDER SECTION
SCALE: 3" = 1'-0"



NOTES:

1. REMOVE MATERIAL FROM INSIDE PILE WITH VAC TRUCK OR OTHER METHOD, IF NECESSARY.
2. PUMP WATER FROM PILE IF NECESSARY BEFORE PLACING CONCRETE.
3. IF ADDITIONAL MATERIAL IS NEEDED TO MAINTAIN BOTTOM OF PLUG ELEVATION, PLACE PEA-GRAVEL OR CLEAN GRANULAR FILL INSIDE PILE TO FILL VOID.

D2 / S2.11 — DETAIL - VOID BEHIND WALL REPAIR
SCALE: 1" = 1'-0"



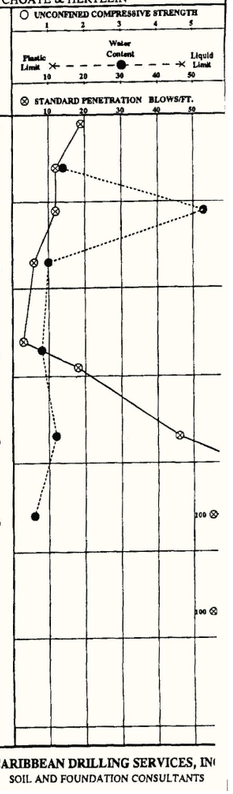
NOTE: WHERE VOIDS OCCUR UNDER ASPHALT PAVING, COLD PATCH ASPHALT AFTER GROUTING. PATCH TO MATCH (E) ASPHALT THICKNESS. APPLY PATCH MATERIAL IN ACCORDANCE MANUFACTURER'S INSTRUCTIONS.

D1 / S2.11 — SECTION
SCALE: 1" = 1'-0"

1' 0'-0" 1' 2'
SCALE: 1"=1'-0"

A/E FIRM **CROFT KENNESAW, GERGIA.** **MOFFATT & NICHOL MIAMI, FLORIDA**	DESIGNED: MCG DRAWN: MM TECH REVIEW: MAP DATE: 2021-04-16	SUB SHEET NO. S2.11	TITLE OF SHEET CRUZ BAY VISITOR CENTER STRUCTURAL DETAILS VIRGIN ISLANDS NATIONAL PARK	DRAWING NO.. . PMIS/PKG NO. VIIS 244623 SHEET 21 OF 23

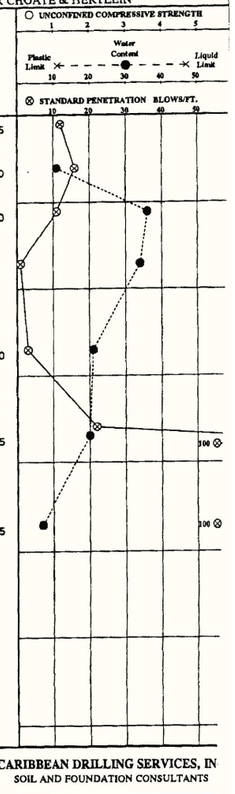
OWNER: NATIONAL PARK SERVICE
PROJECT NAME: CRUZ BAY VISITORS CENTER
LOCATION: CRUZ BAY, ST. JOHN, USVI
LOG OF BORING NUMBER: B-1
ARCHITECT:
ENGINEER: SURBER BARBER CHOATE & HERTLEIN



DEPTH	LEGEND	DESCRIPTION OF MATERIAL	USCS	SAMPLE	RECOVER/ft.
		SURFACE ELEVATION:			
0		ASPHALT on Gravel Base		SS	1.0
		FILL, Silty Sand, Gray		SS	0
		SILTY SAND-TR. SHELL & ORGANICS, Dk. Gray, Loose to Med. Dense boulder at 3.5'	SM	SS	0.5
		SILTY SAND-TR. SHELL & CORAL FGMTS, Dk. Gray, V. Loose to Loose	SM	SS	1.0
10				SS	1.0
15		CLAYEY SAND & GRAVEL, Gray, Dense	GC-SC	SS	1.0
20		WEATHERED ROCK, Gray, Dense		SS	0.5
25				SS	0
30		Bottom of Boring			
35					

TOTAL DEPTH (FT) 30	BORING STARTED 3-9-98	CARIBBEAN DRILLING SERVICES, IN	
	BORING COMPLETED 3-9-98	SOIL AND FOUNDATION CONSULTANTS	

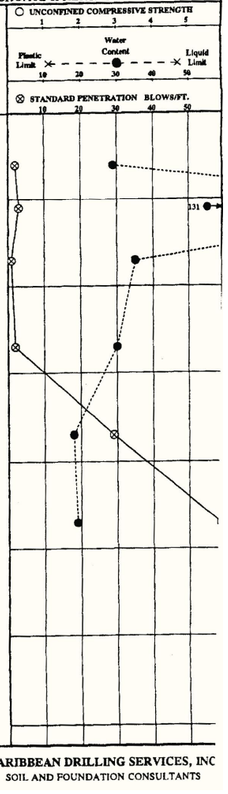
OWNER: NATIONAL PARK SERVICE
PROJECT NAME: CRUZ BAY VISITORS CENTER
LOCATION: CRUZ BAY, ST. JOHN, USVI
LOG OF BORING NUMBER: B-2
ARCHITECT:
ENGINEER: SURBER BARBER CHOATE & HERTLEIN



DEPTH	LEGEND	DESCRIPTION OF MATERIAL	USCS	SAMPLE	RECOVER/ft.
		SURFACE ELEVATION:			
0		SILTY SAND & GRAVEL, Gray, Med. Dense	GM-SM	SS	1.5
				SS	1.0
5		SILTY SAND-TR. SHELL, Dk. Gray, Med. Dense	SM	SS	1.0
		SILTY CLAYEY SAND-TR. SHELL & ORGANICS, Dk. Gray, V. Loose	SM-SC	SS	0
10		peat layers		SS	1.0
15		SILTY SAND, Gray, Med. Dense	SM	SS	0.5
20		WEATHERED ROCK		SS	0.5
25		Bottom of Boring			
30					
35					

TOTAL DEPTH (FT) 25	BORING STARTED 3-9-98	CARIBBEAN DRILLING SERVICES, IN	
WL-WD n/a	BORING COMPLETED 3-9-98	SOIL AND FOUNDATION CONSULTANTS	
WL-AD 3.6	RIG CME 45 SUPERVISOR KDE	APPROVED BY JMC	CDS JOB NO. 9851

OWNER: NATIONAL PARK SERVICE
PROJECT NAME: CRUZ BAY VISITORS CENTER
LOCATION: CRUZ BAY, ST. JOHN, USVI
LOG OF BORING NUMBER: B-3
ARCHITECT:
ENGINEER: SURBER BARBER CHOATE & HERTLEIN



DEPTH	LEGEND	DESCRIPTION OF MATERIAL	USCS	SAMPLE	RECOVER/ft.
		SURFACE ELEVATION:			
0		FILL, Sandy Gravel			
		SILTY SAND, Dk. Gray, V. Loose	SM	SS	1.0
5		PEAT, Dk. Brown, V. Loose		SS	1.0
		SILTY SAND-TR. ORGANICS, V. Loose	SM	SS	0
10				SS	1.0
15					
20		CLAYEY SAND & GRAVEL, Gray, Med. Dense	GC-SC	SS	1.5
25		HIGHLY WEATHERED ROCK, Gray Less Weathered Rock @ 24.5'		SS	1.0
		Bottom of Boring			
30					
35					

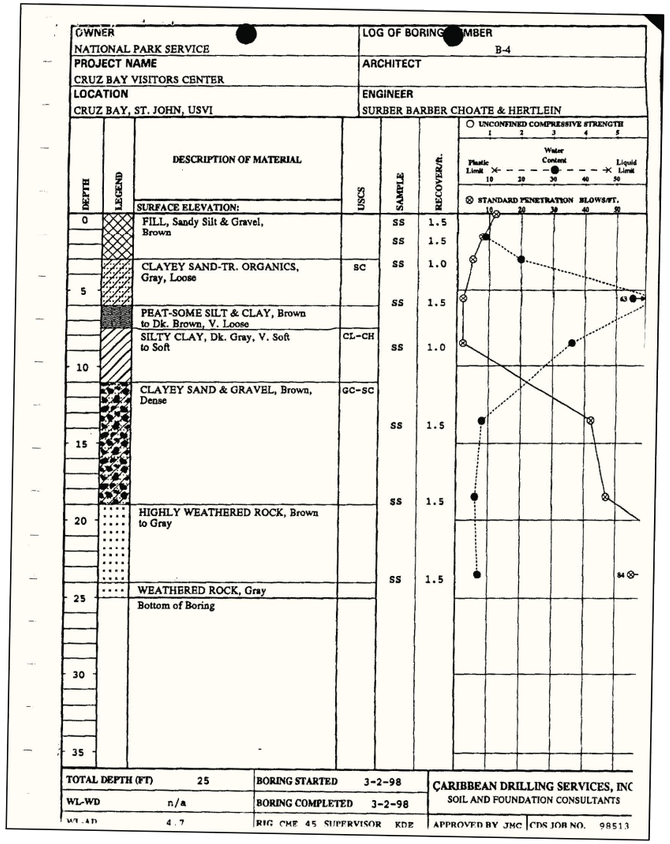
TOTAL DEPTH (FT) 25	BORING STARTED 3-9-98	CARIBBEAN DRILLING SERVICES, INC	
	BORING COMPLETED 3-9-98	SOIL AND FOUNDATION CONSULTANTS	

NOTE: HISTORIC BORING LOGS PROVIDED BY NPS, FOR REFERENCE USE ONLY.

A/E FIRM: CROFT KENNESAW, GERGIA. MOFFATT & NICHOL MIAMI, FLORIDA	DESIGNED: MCG	SUB SHEET NO. S3	TITLE OF SHEET: CRUZ BAY VISITOR CENTER — BORING LOGS (1 OF 2) — VIRGIN ISLANDS NATIONAL PARK	DRAWING NO.: . .
	CADD: MM			PMIS/PKG NO.: VIIS 244623
	TECH REVIEW: MAP			SHEET: 22 OF 23
	DATE: 2021-04-16			

File: Q:\MIA\11152\0500_CAD_Active_Bulkhead Repairs\111520053; Plotted: 4/16/2021 7:55 PM by MARTINEZ, MIGUEL; Saved: 4/15/2021 4:32 PM by RCUPPLES

OWNER NATIONAL PARK SERVICE	LOG OF BORING NUMBER B-4
PROJECT NAME CRUZ BAY VISITORS CENTER	ARCHITECT
LOCATION CRUZ BAY, ST. JOHN, USVI	ENGINEER SURBER BARBER CHOATE & HERTLEIN



TOTAL DEPTH (FT) 25	BORING STARTED 3-2-98	CARIBBEAN DRILLING SERVICES, INC SOIL AND FOUNDATION CONSULTANTS	
WL-WD n/a	BORING COMPLETED 3-2-98		
WL-AD 4.7	RIG CME 45 SUPERVISOR KDE	APPROVED BY JMC	CDS JOB NO. 98513

NOTE: HISTORIC BORING LOGS PROVIDED BY NPS, FOR REFERENCE USE ONLY.

1' 0'-0" 1' 2'

SCALE: 1"=1'-0"

A/E FIRM **CROFT KENNESAW, GERGIA.** **MOFFATT & NICHOL MIAMI, FLORIDA.**	DESIGNED: MCG CADD: MM TECH REVIEW: MAP DATE: 2021-04-16	SUB SHEET NO. S4	TITLE OF SHEET CRUZ BAY VISITOR CENTER BORING LOGS (2 OF 2) VIRGIN ISLANDS NATIONAL PARK	DRAWING NO.. . . PMIS/PKG NO. VIIS 244623 SHEET 23 OF 23